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The Industrial-Organizational Psychologist

TIP

THE INDUSTRIAL-ORGANIZATIONAL PSYCHOLOGIST

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A MESSAGE FROM YOUR PRESIDENT

Angelo DeNisi

What an odd feeling to be writing this column for *TIP*! Let me begin by telling you how honored I am to serve as your Society President, and to assure you that I did check, and the election results were NOT a mistake. I will try, during this next year, to help keep SIOP the vibrant organization it is, and to keep you updated on what's going in this column.

Let's begin with the SIOP Conference. This probably shouldn't come as a surprise to anyone, but the Conference was a huge success. We had a total of 2,985 registrants, which is over 10% more than we had last year, and a new record for attendance. It seems clear that we should be able to break "3,000 in 2000"! Reviewing the details of the conference registration, I found it interesting to note that the largest group of registrants (1,230) indicated they had received their degrees in the 1990s, while the second largest group (516) indicated *expected* degrees in the next decade (the 2000s). That means that over half the people registering for the Conference were within 10 years of their degree date. If you are my age, you would have processed this information in the form of noticing how young everyone seemed!

Much of the success of the Conference, of course, is due to the quality of the program. **Mike Burke**'s Program Committee (all 350 of them!) assembled 460 competitively reviewed sessions that drew rave reviews, and kept everyone busy as they tried to move from one session to the next. A highlight of the Conference was the annual Dessert Party on Saturday night. If you missed it, you missed live music, featuring a guest shot on the clarinet by **Vic Vroom** (he was REALLY good), as well as several of the more senior SIOPers dancing up a storm. In fact, the dessert party was so lively that a group of "prom people" from across the hall actually decided to crash. Thanks are due to **Jaci Jarrett Masztal** for making the arrangements. Next year, the Dessert Party will include a special recognition of the recently formed SIOP Foundation, and will again feature live music—including a promised SIOP All-Star session.

There were also 507 people registering for Workshops, which is another record. The growing attendance at these sessions is a testimony to their quality, and to the efforts of **Angie McDermott** and her Workshop Committee. Of course, the fact that the entire event went off as smoothly as it did is thanks to the efforts of many people but most especially **Ron Johnson** (Conference Coordinator) and Lee Hakel, along with the staff from the Administrative Office.

Elaine Pulakos' Presidential Address dealt with her research on "Adaptability in the Workplace," and was both informative and entertaining (except for some clearly doctored picture of an unnamed President twisted like a contortionist). Although Elaine's presentation was the highlight of the opening session, we also took that time to present the winners of the various SIOP awards, and to name the new SIOP Fellows. The names and the particulars of those announcements are found elsewhere in this issue but, I want to take this opportunity to congratulate all the SIOP Award winners as well as the new Fellows. Finally, we also used that opening session to announce the results of the SIOP elections, and I want to share those with you as well. The President-Elect is **Nancy Tippins**; the Secretary is **Janet Barnes-Farrell**; and the new Member-At-Large of the Executive Committee is Mike Burke. In addition, all four proposed changes/amendments to the by-laws passed by large margins. I want to congratulate the election winners, and thank those who agreed to run against them in the election.

I should note that over 1,000 people voted in the elections this year, which sounds pretty good. However, we now have almost 3,000 voting members of SIOP so that our participation rate is somewhat smaller than we would expect to find in a non-Presidential year for the national elections. This is NOT a good thing, and all I can do is to remind those who did not vote that, if they are unhappy with the results....

There are a few other things that happened in the Executive Committee meeting that you might want to know about. We finalized the process whereby the Committee on Committees was "sunsetted" (i.e., there is no more such committee). This committee was charged with helping staff the various SIOP committees, and insuring that these committees are as representative of the larger membership as possible. Given how much of this activity now takes place in the Administrative Office, it seemed that we really didn't need a formal committee to handle this. The Past-President will keep an eye on the make-up of the committees. This is an excellent place to remind you that, if you have any interest in serving on a SIOP committee, you simply need to complete the volunteer form that appears several times a year in *TIP*, and is always available on-line. Although not everyone can serve on the committee of their choice, we actually have a pretty simple screening procedure for assigning people to SOME committee—if you can fill out the form, you can serve on a committee (IF you are a member in good standing, of course). Even if you cannot work on the committee you requested for one reason or another, everyone who volunteers, works on some SIOP activity. And, of course, we do need volunteers. SIOP is a volunteer-run organization so that every committee member down to the lowliest President is a volunteer, and we clearly need all the help we can get to continue the SIOP activities we all look forward to, such as the annual SIOP Conference.

A number of other issues were discussed, but these are covered in the different reports found elsewhere in *TIP*. Some other developments, though, are worth mentioning. For example, the Ad Hoc Committee on Ethnic Minority Affairs (chaired by **Beth Chung**) has been quite busy trying to help integrate a more diverse group

of members into SIOP. *TIP* will include a new regular column telling you more about what this group is up to.

Also, **Jeff McHenry** (our Financial Officer) reported that, while SIOP is in good financial health, there are a few issues of concern. According to Jeff's calculations, for every dollar of dues paid by SIOP members, that person receives general member services that cost SIOP $1.31 to provide. Furthermore, our student members (who pay only $10 per year) get an even better deal for their money. SIOP has continued to prosper only because of other sources of income. Although there are several such sources, the major source of additional income is derived from the SIOP Workshops. That means that approximately 500 members are subsidizing the benefits enjoyed by all SIOP members. That strikes me as unfair and fiscally foolish (remember, I DO teach in a College of Business). In case you weren't sure where this was going, you should consider this your first warning of some type of dues increase in the coming year. The Executive Committee will work on a formula that is fair.

Finally, in the coming year, I would like to explore ways for SIOP to become more involved in APA. I know that we have not exactly had a smooth relationship in the past. I also recognize that a substantial number of our members believe we should leave APA alone in order that APA leave us alone. But, the truth of the matter is that APA does NOT leave us alone. For example, **Kalen Pieper**, the Chair of our State Affairs Committee reported that there are several states that now have Practice Laws for licensing psychologists. That means that, whether or not someone uses the title psychologist, they would need to be licensed as long as they were engaging in any of the practices on the list—and those lists include many activities that are central to many of our members. Furthermore, in some of those states, the licensing laws are written such that our members CANNOT be licensed. This situation seems intolerable to me, and I think that APA could help us deal with this.

Also, **Vicki Vandaveer**, a SIOP member who served as Chair of the College of Professional Psychology within APA, has warned us of another potential threat. That group is charged with developing tests to certify specializations within the practice of psychology, and they operate outside the Division structure. So, for example, if someone proposed a specialization called "Clinical Organizational Psychology," that body, with the approval of another APA committee, could essentially create and develop a means for certifying a new type of I-O Psychologist—and SIOP would not have to be consulted on any of this. Now this possibility is remote, but I think the time has come for SIOP to become more immersed in (the quagmire of) APA politics in order to insure that our interests are being guarded. I'll tell you more about this as the year goes on.

That's about it for now. I've just been signing membership certificates (another part of the job of the President), and I guess I should get back to them. I look forward to this year of serving as your President, and I'll do my best to serve the needs of you and SIOP. If you have any ideas, suggestions OR complaints—please let me know. I don't promise to act on every one, but I do promise to pay attention and listen.

From the Editor: In the Summertime

Allan H. Church
W. Warner Burke Associates, Inc.

Welcome to the first issue of Volume 37 of *TIP*. We have a great issue in store for you this summer, with a number of feature articles, columns, and news items focusing on some of the latest "hot" topics in I-O psychology. That's right, the Conference in Atlanta has come and gone and we all survived the impact of Kurt Kraiger's dress-code recommendations—although I hear that some people took them more seriously than others. In fact, I bet that by this time at least 35% of you (ok, myself included) are already planning, or at least thinking about, your potential submission(s) for next year's SIOP conference in New Orleans, right? What would the world do without such eager beavers? So I ask you, what better way to generate some hot ideas than by reading this issue of *TIP*? Before delving into a pithy description of this issue's highlights, I'd like to take this opportunity, as I usually do in this forum, to meander down the lost highway of observations about some recent events, books, and whatever else comes to mind.

Are You Ready for the Summer?

Speaking of hot topics, this issue of *TIP* itself is probably not the only thing that's going to be hot by the time you hold it in your hands. After all, it will be the middle of July by then, which for many of us conjures up images of a throaty voice singing "Hot Times Summer in the City." Ok, so I don't actually live in the city (New York City that is), but "lower" Westchester county has enough congestion, road rage, and bumper-to-bumper roadways to make it close enough to the city for this ex-Connecticut person.

Of course, the summer means more than just heat waves to all of us. It's also a time of grass mowing, sunning (if one is still able to), top-down driving, sprinklers, water shortages, a plethora of purple, red, and blue freezy-pops at every local supermarket and drugstore, barbecue dinners, and of course, for those of you who remember my column last year, summer school. That's right, while many of my colleagues in academia find the summer a time of rest and relaxation (ok, for some it is the time for some on-the-side consulting, too), for me it's time to go back, back, back to school again. Once more into the breach go I to co-teach data-driven methods for change! I am armed with overheads, syllabi, handouts, and projector, yet still the old ghosts haunt me—Will the students think I know what I'm talking about? Will I know what I'm talking about? Will the students learn anything useful that they can take back to their jobs? Will they find a typo in one of the handouts? Will I make it out of the office in time for class? I stop and think a moment. Yes, I feel I'm ready.

So, I ask you all, in the immortal words of the theme song to the 1970s movie *Meatballs*—are you ready for the summer? Either way, I'd like to hear

what you're getting ready for! I'm always looking for interesting items for the *TIP Missives* section.

Take Me to Your Leader

Recently, while waiting at some airport to board some plane to visit some client to have a meeting about some project, like any other bored business traveler (as opposed to the frenetic business traveler) I browsed the local book store for some reading material. Passing over the latest offerings from Stephen King and Scott Adams, I noticed an interesting little book by Jeffrey Fox in the "pop" culture section sandwiched between the modern-day classics *Dating for Dummies* and *Potatoes Not Prozac: A Natural Seven-step Dietary Plan to Control Your Cravings and Lose Weight.* The title of the book alone was intriguing—*How to Become CEO: The Rules for Rising to the Top of Any Organization* (Fox, 1998)—but it was the claim on the inside jacket cover that "even MBAs from the best graduate business schools will find essential insights and practical lessons" that sold the book. How could any self-respecting I-O psychologist resist what the inside jacket claims to be "an insightful handbook of traits to develop for all generations of CEO aspirants?" I mean, we all want to develop our own traits (be they CEO or NEO-PI) right? Further, as a social scientist I'm always drawn to any explanation or organizational phenomenon and behavior that promises that "the words *never* and *always* are used frequently." After all, I'm still trying to figure out how to use these terms as anchors in a survey instrument.

What genius, I wondered, has been able to boil down 100 years of organization theory and research into such a small handbook filled with platitudes? Turning to the back half of the inside jacket, I found my answer—this opus had been written by a consultant, no less (ah, perhaps Scott Adams is indeed right in his condemnation of the consulting profession in general) in a "premier marketing consulting company." Further, the author's biggest claim to fame apparently comes from being the subject of a Harvard Business School case study that has been rated as one of the top 100 case studies and is thought (by whom?) to be the most widely taught marketing case in the free world. Ok, so needless to say, I bought the book. Now, rather than providing an impartial summary of the pros and cons of the book (as I have been doing so far), I thought it might be more fun to highlight some of the more interesting anti-points that jumped out at me with respect to our field in general.

First, let's start with the author's introduction. I have to give him credit, because he is quick to give us his formal understanding of the fields of I-O, OD, and OB by stating clearly and succinctly up front that "there are oodles of factors that influence the path to CEO—work habits, luck, timing, competitors, personality, supporters, talent, circumstances, and so on" (Preface, p. XX). So at least we know he is well grounded. In addition, as is any good practitioner, he appears open to feedback on his handbook. In fact, he and his editor are "interested in your comments, thoughts, additions… and in any positive examples of your using the guidelines in this book." So, if that "certain self-elitism" that comes from doing something "hard and lonely"

(See chapter VI) ultimately gets you fired rather than promoted to CEO, don't call them—they'll call you. Does this guy have the consulting model down, or what?

Next, listed below are some of the more colorful recommendations and/or Foxian observations culled from the various chapters. I think you'll agree that many of these fit within the more traditional teachings of our field, circa early Taylorism. In addition, one or two of these might even have a direct bearing on the perceived value of our profession.

Point of Wisdom	*Implications*
"Go to work for the company that offers you the most money" (p.1).	Clearly, from a Foxian perspective, money is everything; it's the ultimate motivator and the best sign of success. So much for the research in I-O these last few decades demonstrating that pay does not motivate people.
"Make allies of your peers' subordinates, your peers are rivals for your next spot" (p.28)	This is a great set of recommendations for building trust, influencing others, generally creating a positive, cooperative, and empowered culture which would make even Machiavelli proud.
"Most people in business never really work hard. They manufacture a busy look by bustle and busywork." (p.87)	Long live the Theory X approach to management. Of course, this idea is the entire basis of the *Dilbert Principle* (Adams, 1996) as well. Somehow, I think Adams is being somewhat playful, while this guy most definitely is not.
"Corporations don't have career plans for future presidents" (p.7)	What nice recognition for those practitioners working in the areas of succession planning or executive and leadership development all these years. Fox has definitely been added to my next holiday card list.
"When you're on the road at a sales meeting, or a seminar, or a management meeting, don't go to the cocktail party" (p.20)	So much for half of the SIOP conference attendees in Atlanta this year. Perhaps we can stop the insanity in New Orleans?
"Don't stay at the office until 10 o'clock every night. You are sending a signal that you can't keep up" (p.35)	Come to think of it, most people I know work late of their own volition because it's fun. If they had only been given this advice before, it could have changed their lives. After all, in today's highly empowered corporate world, every employee should be able to control his or her own work load, right?

"Customers reject sellers, they negotiate, they make harsh demands, they expect their needs to be filled, and they can be fickle" (p.9)	No comment here. See my comments in *TIP* last issue.
"Do not get paper trapped. Do not accept your corporation's paper handcuffs. Monthly reports are stupid." (p.152).	Perhaps they are, but being fired for not doing those reports could be stupider. Oh, I forgot, he doesn't want to hear about those negative stories.
"Jobs that don't get and keep customers are redundant" (p.5)	Well, if all you have are people getting customers, who is delivering the product or service? Also, doesn't the term redundancy usually lead to the term downsizing? If so, then look out below.
"Administrative [i.e., non-sales] people are not bad, nor untalented. But they are not at the cutting edge. The company doesn't depend on them." (p. 5)	Although part of this point may be frighteningly true, all I ask is if the company does not depend on administrative people (i.e, I-O fits here), then who would file, request, write, format, proof and file all the stupid paperwork?
"Perhaps 97% of all people in all organizations are afraid of change and innovation" (p.107)	Right or wrong, I would guess that this perception is what helps keep many us in the fields of I-O and OD employed.

Well, that's enough of *How to Become CEO.* To think I actually had to read a large portion of this book to find these morsels. While the book really isn't all *that* bad, it does represent the opinions of one seriously jaded individual.

Unfortunately, his idiosyncratic ideas and recommendations in this little book are likely to affect more people's perceptions about how organizations (and the people in them) work than are the last 5 years of articles in the professional journal of your choice. This is the struggle that we face as a field: Not only do we have to overcome the negative perceptions of psychology in general (e.g., Hogan, Hogan, & Shelton, 1999; Waclawski, 1998) and the practice of organizational consulting as a profession (e.g., Church, 1997; Micklethwait & Wooldridge, 1996), but we also have to find a way to be heard above and beyond the mini-handbooks of platitudes and personalized "factiods." Perhaps it's time we stand up and make our presence known.

Stand Up and Be Counted

Speaking of standing-up, several weeks ago my colleague, **Janine Waclawski**, and I were fortunate enough to have the opportunity to make our presence known regarding the process of action planning in organization sur-

veys at the spring meeting of the Mayflower Group in Colorado Springs. We saw several friendly faces there, including Mayflower members **Sara Weiner** and **Carol Timmreck**. **Bill Macey** and **Diane Daum** were also on hand for a presentation of their own on statistical techniques for modeling employee satisfaction. We also met some new faces, including **Karen Paul**, **Kevin Nilan**, and **Rod Freudenberg** who were all gracious hosts.

For those of you who are unfamiliar with the Mayflower Group, it is a well-respected industry benchmark consortium of practitioners from a variety of corporations (e.g., 3M, Boeing, Honeywell, IBM, GM, United Airlines, to name a few) that share survey techniques, measures, and data across organizational settings (Johnson, 1996). Perhaps not surprisingly, a number of Mayflower members are also SIOP members, and many other SIOP members are quite familiar with the Mayflower group through a variety of prior intern and/or occupational positions.

In any case, similar in some ways to the call for action made above, following a description of some frameworks regarding the level and type of impact of different types of action planning efforts, the main theme of our presentation was also a call to action. It concerned the need for survey practitioners to begin to make more effective use of their survey results by taking ownership of the action-planning process and becoming change agents themselves. While this message was undoubtedly not surprising to our audience, it was fun to be able to take a stand on this issue in front of such a well-known group.

Thanks again to Karen Paul and everyone at Mayflower for having us and listening so patiently to our East Coast, OD-focused comments on the process of organizational change.

Turn and Face the Strange

My final comments for this issue concern the notion cited earlier on page 107 of *How to Become CEO* regarding the public's perception of change. At first, as noted above, I bristled at the idea that almost everyone (97%) in organizations resists change. After all, as Sheryl Crow says, "change will do you good."

Yet the more I thought about it the more I realized that many people do fear change—or at least there is a perceptual fear of change. Consider this—despite the fact that the correct answer to question #1 of the *Managing Change Questionnaire* (Burke, 1990) which states that "People invariably resist change" is keyed as false (look up the word invariably if you don't believe me), something like 66% of over 2,000 executives, managers, and even I-O and OD practitioners actually *agree* with the statement and will argue it pointedly.

Of course, advertisements like the latest one for Hershey's chocolate probably don't help the perceptual situation. If you haven't seen this yet, it's worth finding and pinning up somewhere. The colors are dark and striking—a primarily black and white photo on a deep reddish-brown background. The image is of a man's curled arm with a column of 5 different tattoos of women's names,

the first four of which are crossed out. He is sitting in the classic pose of the thinker. The add culminates in large full cap letters that state "Change is Bad." Then, at the bottom of the page, is the REAL add, which states "Unchanged Hersheys Milk Chocolate since 1899." Ok. Now, I don't know if Hershey's has changed its formula or not, but I would bet that it has done some updating of its equipment since 1899 and probably has been involved in a few BRP engagements as well (please email me if anyone knows for sure). Whatever.

The fact that someone in an ad agency came up with this concept and thought it would sell an image of stability by preying on people's fear of change is what worries me. Change in and of itself is not bad. We all change daily—nothing stays the same. We get married, we get promoted, we buy a house, we have children, we could even win the lottery. The issue is how to manage the change so that it is interesting and energizing rather than frightening and paralyzing.

What a Clean Machine

Speaking of change, there are a few changes in the *TIP* Editorial Department starting with this issue as well. Here is the lowdown on all the I-O news that was fit to print for this issue.

Featured Articles

The issue begins with a message from our new SIOP President, **Angelo DeNisi**, who after confirming that this past Conference in Atlanta was indeed the largest attended ever, provides us with insights into some of the important issues facing the Society in general and its membership.

Next we have an interesting, reflective piece by **Robert Perloff** from the University of Pittsburgh on the challenges of teaching I-O psychology in a business school setting. Robert tries to answer that age-old question—what's a nice I-O psychologist doing teaching in a business school like this?

Speaking of change in the field and standing up and being counted, the contribution by Marc Berwald and **Milt Hakel** takes a poignant look back at what happened to the field of I-O psychology in the late 20^{th} and early 21^{st} centuries. Interestingly enough, some of the same themes in this retrospective piece are mirrored elsewhere throughout this issue as well. I expect that this trip to 2020 will generate some interesting responses. Operators are standing by at TIP Missives for your e-mails.

Do you remember taking the SATs, and how despite all the claims from the "professional" study courses your scores actually got worse instead of better? Ok, well, maybe that was only some people, but these preparatory courses do represent a booming commercially successful business which **Wayne Camara** from the College Board and Donald Powers from ETS take head on in their article "Coaching and the SAT I." Although I don't want to spoil the ending for you, I do want to let you know that Wayne has made several TV appearances

recently (including *Good Morning America*) and two or three *real news articles* (e.g., in *NY Times Sunday Magazine*, *Washington Post*, etc.) have incorporated and cited this work. He even made the AP wire. So, all this is my way of saying there might be something worth paying attention to here.

Our next entry, by **Dan Ilgen** and **Bill Howell**, starts with a mini-refresher tour of the field of human factors, and then more formally introduces us to the origins and purpose of The National Research Council's Committee on Human Factors (CoHF). Interesting enough, as they point out, while the committee provides a means for publicizing psychological research issues related to work and technology, its activities are largely unrecognized and underutilized by I-O psychologists. This is something the committee would like to change.

Following this piece, we have what appears to be a planned series of articles (but of course it wasn't) on the impact, role and perceptions of technology and I-O psychology. In response to recent *TIP* columns ranging from *Traveling in Cyberspace* (Craiger & Weiss, 1997), to *Practice Network* (Harris, 1999), to *Informed Decision* (Stanton, 1999), as well as some provocative features articles by Wayne Cascio (e.g., Cascio, 1999), it seems we may indeed have started something of a real debate in these pages.

First, the article by **Nathan Mondragon** raises some important issues regarding our perceived resistance (or perhaps apathy) toward adopting new technology in I-O related settings. He then offers some sample applications and solutions for how we might go about pushing the envelope (to use a term from Tom Wolfe's *The Right Stuff*), including telephony and internet-based recruitment and training methods.

Next, Stephen Vodanovich and Chris Piotrowski provide us with the results of a survey research study they conducted on the views of academic I-O psychologists toward—that's right—the use of the internet for instructional purposes. Although probably not surprising, their finding that I-O faculty tend to use the internet for fairly standard tasks (e.g., e-mail, literature searches) does lend credence to some of the arguments that have been made in these pages in the past.

The third article in the technology triad for this issue is on the current state of one aspect of technology in the workplace—that is, telework research. Here, **Nancy deLay** takes an applied look at some reasons behind the lack of published research in this area in mainstream academic literature, including a lack of collaborative research relationships between academia and organizations. In short, it would appear to be an applied problem.

Our final feature article for this issue is a short piece submitted by **Jim Morrison**. As a licensed psychologist whose current focus in on mental health counseling and crisis interventions for disaster victims, Jim makes his own call for action in the field. In short, he is asking for some I-O psychologists to put their efforts where their espoused values are. Interestingly enough, the issue of

being a licensed psychologist rears its head here as well, which brings us full circle to some of Angelo's initial comments on the subject.

Editorial Departments

As usual, the cast of characters in our editorial department has a variety of interesting columns for you as well. The first entry under this rubric is *Practice Network* by **Mike Harris**, which takes a look at some of key issues and hot topics involved in global I-O psychology. The fact that Mike used HotBot as his search engine has nothing whatsoever to do with my initial comments about the summer heat.

Next, we have the first installment of *TIP-TOPics* from our newest members of the *TIP* editorial board: **Kim Hoffman** and Suzanne Vu. After some introductions and promises that there is no conspiracy to use only University of South Florida students in this column (their column was indeed selected independently as the best submission), Kim and Suzanne tackle the question of whether or not the traditional I-O graduate training process adequately prepares people for practice. I hope everyone will take the time to welcome them to *TIP*.

Janine Waclawski enters the fray next by taking on the notion of Generation X in this installment of her *Real World* column. With a little help from **Mike Herron** and **Tracy Reduzzi**, Janine tackles issues of agism, stereotypes, and the importance of the two obs.

The International Forum for this issue, by **Dirk Steiner**, focuses on a report of work and organizational psychology in the Netherlands contributed by Carsten K.W. De Dreu from the University of Amsterdam. Based on Carsten's comments, it sounds like there are some interesting developments in the field going on over there. It would appear, however, that the Dutch may have a entirely different water management style from ours (that's called a teaser).

This edition of **Steven Rogelberg**'s *Informed Decisions* column has yet another survey-relevant piece (do I detect a pattern here in Steven's work?) on strategies for developing shortened scales and survey instruments. Contributors **Evan Sinar** and Amanda Julian provide a nice overview of some of the theoretical and practical issues involved in making a longer instrument shorter (and easier).

Next, **Charmine Härtel**'s *Global Vision* column provides an interesting overview of several recent studies and reports regarding such topics as multinational performance appraisal attitudes, transnational issues in occupational testing, and the issue of loyalty across different cultures. As always, Charmine has done a nice job of culling a variety of findings and concerns from a variety of sources across the globe. Interestingly enough, some of the themes raised here mirror those in Mike Harris' column elsewhere in this issue as well.

Although some of us I-O psychologists already consider ourselves to be in the organizational change business and are thus aligned with other OD and HRD-related groups as well as SIOP (not that I am naming names or anything), there is a significant percentage of the I-O world to which organizational change may represent a somewhat foreign (or perhaps even flaky) topic. In this issue's edition of *Work in the 21st Century*, **Karen May** is out to change some of these mindsets by describing how some traditional "core" I-O skills and technologies can actually integrate with and potentially enhance various organizational change initiatives. Interestingly enough, she concludes that it's probably not the work itself that differs between perspectives but the way that the skill sets are applied.

Last but not least, *Traveling in Cyberspace* returns to this issue with a look at the role of Psychology and Software Design. In this edition, *TIP*'s resident technology expert, **Philip Craiger**, provides an informative look at some of the steps and factors involved in designing human-computer interfaces. I don't know about anyone else, but I have always loved using the C:\ prompt. Actually, and in all seriousness, given some of the recent mishaps I've seen with nonstatistically trained people using menu-driven statistical analysis software (e.g., SPSS for Windows), I do sometimes wonder whether being forced to learn some arcane programming code isn't the better way for sensitive and/or complex applications. (I know, this probably dates me already, not to mention the fact that I'm resisting the change to menu-driven analysis.)

News and Reports

Moving to the official news and reports section of this issue, we start off with a summary of the 1999 SIOP award winners from Award's Chair **Fran Yammarino**.

Next, **Beth Chung** provides us with an overview of some of the history behind and initiatives currently facing the Ad Hoc Committee on Ethnic Minority Affairs (CEMA). Be sure to look to this same space in future issues of *TIP* for **Denise Bane**'s quarterly articles and reports on evolving CEMA activities.

Other items of interest here include a short description of the proposed SIOP Bylaws Amendment by our newly elected SIOP Secretary, **Janet L. Barnes-Farrell**; a call for Fellows from Bill Macey and a call for the 2000 SIOP awards from Fran Yammarino; a report on the SIOP Frontiers Series and call for new proposals from Series Editor **Neil Schmitt**; a report on the current "goings-on" in APA Council by one of our Division 14 representatives, Wayne Camara; and an update on the success of the 14th Annual I-O Psychology Doctoral Consortium from **Lyse Wells** and **Michelle Marks**.

In addition, **Heather Roberts Fox**, from the APA Science Directorate, provides us with an overview of the newly APA-funded plan to develop and implement core curricula for graduate students in occupational health psychology (OHP). The funds are provided by a 5-year cooperative agreement between APA and the National Institute for Occupational Safety and Health (NIOSH). Heather also updates us on the outcome of a U.S. Supreme Court ruling on a text anxiety case—you know, where the student sued a university after receiving mediocre grades in two courses due to excessive anxiety.

Of course, this issue also has the usual set of IOTAS, as well as **David Pollack's** highly copied list of upcoming conferences for this year and next. There are also some calls, announcements and job postings for you to peruse at your leisure as well.

As always, I look forward to hearing from you about this issue of *TIP*, the field of I-O in general, or any ideas or comments you might want to share. Please send your musings to Allanhc96@aol.com. I hope you enjoy the issue.

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TIP MISSIVES

Objection, your Honor—Leading the Witness

Hi Janine:

I thought of your article "The Political Polling Process—Surveys Run Amok" (which I really enjoyed) in the January issue of *TIP* during a recent visit to the local branch of a major bank. The bank had a sign prominently displayed that read as follows:

> Attention Bank Customers: From time to time, Bank X hires marketing research companies to survey our customers on the quality of our service. If you are surveyed and are satisfied with the service we provide at this branch, it is very important that you rate us Very Good or Excellent in the Teller, Non-Teller, and overall Branch categories. This will produce a favorable rating for our branch. Thank you for your continued support.

I couldn't help but think of your criticisms of many of the surveys out there. "Objection, your honor—leading the witness!" is the first thing that came to mind. I mean, come on, how can such a well-regarded bank communicate such information to its customers and at the same time not reveal why it is "very important" to provide such ratings? Obviously, the bank is more concerned about having a favorable image than about what people really think. Anyway, it really bugged me to see the sign, but then thinking of your article assuaged my angst by making me realize that I am not the only one who believes in the importance of increasing peoples' awareness of the potential inadequacies of surveys.

Thanks for a thought-provoking and very "life-relevant" article.

Seth Berr
W. Warner Burke Associates, Inc.
sberr70@aol.com

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A Question of Values

Dear Mike,

Having now read your April *TIP* article on the internet and I-O practice, I don't feel so bad about the rather mundane answers I felt I gave to your questions. The article leads me to the conclusion that it is yet early in this game, and that real breakthroughs in the use of this tool lie in the future.

The one point which motivated me to write to you appears in the last paragraph on page 92. To change the paradigm of I-O psychology to one of "creating value for organizations" would be a huge and costly mistake. There are many professional organizations which hold that idea as central to their mission. I belong to a couple of them and get all the results-oriented, strategic HR help I need from them. (The HR Planning Society may be the best there is in the area of relating people processes and programs to business strategy). There are also for-profit membership organizations that provide excellent "best practices" research. (I find the Corporate Leadership Council to be the best of these).

I could be wrong, but I do not see that SIOP has any competitive edge over these existing sources. SIOP gives me something unique. I want to belong to a SIOP that has a goal that begins with "to promote human welfare..." Maybe the respondent who had the insight, as you called it, truly does see a viable niche for a new, future organization. Alas, I will probably be driven away if that is what SIOP becomes. Also, my guess is that some academics like yourself would soon feel irrelevant in a SIOP organization driven by such a new paradigm. It's quite possible that I am truly off base in my opinion, and that you are receiving tons (megabytes?) of mail supporting a change of paradigm. If so, I respectfully ask that the matter be referred to SIOP's Long Range Planning Committee for serious discussion.

Best Regards,

Tom Jeswald
PNC Bank
thomas.jeswald@pncbank.com

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The Customer is Always Right?

Dear Allan,

In response to your last Editor's column on customer service—one of my favorite Dilbert cartoons has the gang sitting around a conference table (don't know if a prop plane got them there or not) and the boss says "Our strategy is to give the customers what they want," to which Alice replies "customers want better quality products for free." After a blank panel, it is suggested that we just sell customers what we have and call it a strategy.

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What I Told Barb, Rick, and Angie: Reflections of a Retired Business School Professor

Robert Perloff
University of Pittsburgh

Recently three University of Pittsburgh bright-eyed and bushy-tailed undergraduates—Barb, Rick, and Angie—were assigned the task of interviewing me in connection with their course in the history and systems of psychology. They selected me because, as an industrial-organizational psychologist, I teach in a business school, and they wondered what a nice psychologist like me was doing in a business–ugh!–school.

The Benefits from and Advantages Inherent in a Business School Professorship

Business school students are, in the main, focused and goal oriented. They take seriously their exposure to learning materials relevant to their career aspirations. Sometimes, to be sure, they are *too* focused, that is, resistant to intellectual excursions or "distractions" into other venues of life, say the cultural, literary, or philosophical. This is the downside to their tunnel-vision, no-nonsense obeisance to business-relevant literature, techniques, and experiences. But maybe this is because we B-school profs, overlooking the opportunity—and our responsibility—to shape and broaden student perceptions and interests, stick to the straight and narrow of conventional B-school curricula and our sometimes sterile courses.

The habitués of business school classrooms, both undergraduate business majors and MBA (master of business administration) students alike, take their work very seriously, because they expect that their academic preparation will be beneficial and rewarding upon their entrance into their careers and the world of work. Given this student state of mind, the professor has an audience in thrall with the professor's armamentarium of intellectual meat and potatoes and, too, the professor's fringe intellectual delicacies.

Teaching students such as these is most rewarding because they are eager to squeeze every drop—or most drops—of learning from your professional persona.

Confronted by this quality of customer demand, business school professors quickly learns that their material should be relevant, exciting, and up-to-date. This instills in the professors a sense of duty, commitment, and dedication that keeps their intellectual senses sharp, coherent, and laden with consummate interest, enabling them to navigate steadily and effectively the sometimes blustery shoals of teaching in a professional school.

Challenges

Knowing that your students are destined to enter the world of work, to make the trains run on time, to produce useful goods and services which sustain a manufacturer or provider's success, the professor is challenged to mold his or

her students so as to do the best work they can, to be useful cogs in industry's machine and to be ever mindful of their responsibilities to be accountable to the public and at the same time congruent with their employers' missions and business strategies. For example, teaching human resources and organizational behavior courses, the professor has the opportunity to instill in his or her students a sense of morality and fairness in dealing with such matters as employee selection and employee performance evaluation. We have the precious opportunity to influence our students in order that they not only do good jobs, but ethical and moral jobs as well. The rewards attendant for reacting to this opportunity are enormous and exhilarating.

"The Business of America is Business"

This is a paraphrase of what our country's 30th president, Calvin Coolidge, actually said. In an address in 1925 to the Society of Newspaper Editors, President Coolidge declared that "The chief business of the American people is business." What is the challenge in this assertion for professors who unfold knowledge and technology in business classrooms? It is this: most people in America work for business, that is, the private sector—the sector, we should remember, that was responsible for producing the goods and materials which helped dramatically to forge our victory in World War II and which has assured our world leadership and its compass on free enterprise, open markets, and limitless opportunities by being at the forefront of the world's nations.

So, to repeat, the business school professor is at the vanguard of helping to develop the workers and business leaders whose efforts, energies, and creativity will help enormously in maintaining our nation's world leadership, and, perhaps of more immediate importance, the opportunity for men and women thus to crank up the engine of private enterprise and bask in the "American Dream."

Business is a Microcosm of Life in General

We business school professors prepare young men and women to enter the world of work, a world which is verily a microcosm of the totality of life itself: the drama of heroism, the despair of failure, the stress of conflict, the satisfaction and sometimes the joy of accomplishment. This is to assert—though it may be an obvious truism—that our business school charges will inevitably apply to life at large what they learn from our classrooms and the experiences they enjoy (or sometimes dread) in the office, the factory floor, the marketplace, or the industrial laboratory. Not only is "No man is an island," but also, business education has the opportunity and the challenge to proliferate beyond the person's working day and his or her working environment.

Externalities

Externalities, or secondary, or unanticipated, benefits are twofold. First, the business school intellectual and professional environment is conspicuously and pervasively interdisciplinary. Next, the issues and problems boiling around

the business school broth are problems and concerns which are glaringly evident in today's headlines.

First, the interdisciplinary ingredients in a business school cook up appetizing intellectual stew. The curricula, research, and consulting indigenous to a business school cut across many disciplines and fields of study: accounting, artificial intelligence, business and society, business law, economics, finance, government regulation, health management, human resources, labor-management relations (including conflict resolution, bargaining, and negotiating), management information systems, marketing, mathematics, operations research, organizational behavior, political science, psychology, sociology, statistics, and strategic planning. Amid such a tempting array of intellectual offerings, I'm like a street urchin with his nose up against an "oh so inviting" candy store window

Next, we business school professors muck around in the problems, issues, and controversies that constitute a newspaper's headlines, guaranteeing that what we do is vital and relevant to local, regional, national, and international interests. Consider these newsworthy stimuli: Alan Greenspan's "irrational exuberance"; corporate fraud and corporate greed; benign corporate sensitivity to employees, as reflected in flextime, day care centers, and dual career couples consideration; downsizing; "it's the economy, stupid"; Bill Gates and Microsoft; inflation; bloated executive compensation; the "glass ceiling"; women's salaries not up to par with men's; insider trading; managed care, health costs, and patients' bill of rights; mergers; breakthroughs such as the personal computer; email; the Internet; cellular phones, and ATMs (automatic teller machines); occupational health and safety; recession; "saving social security"; "safety nets"; "sweat shops" and child labor abuses (generally abroad); steel dumping; taxation; unemployment; and unions and labor unrest. Business schools are vibrantly in the thick of things, where the action is in—to use a cliché, *the real world.*

So this is my story and why I told Barb, Rick, and Angie that Calvin Coolidge had it right. The business of America *is* business, and I thank my lucky stars for my modest part in the educational enterprise supporting the business of America. Those were great years. They still are, and as Robert Frost[1] said:

The woods are lovely, dark, and deep,
But I have promises to keep,
And miles to go before I sleep,
And miles to go before I sleep.

Biography

Robert Perloff is a Distinguished Service Professor Emeritus of Business Administration and of Psychology, Katz Graduate School of Business, University of Pittsburgh.

[1]From Robert Frost's "Stopping by Woods on a Snowy Evening."

Dateline 2020: A Look Back at I-O at the Turn of the Millennium

Marc Berwald
Bell Mobility

Milt Hakel
Bowling Green State University

Milt Hakel: On May 21, 1999, I made a presentation to the members of the Canadian Society for Industrial and Organizational Psychology, as a part of their convention in Halifax, Nova Scotia. Here is the title and the abstract:

The Vision Thing: Psychology, I-O, and the Next Millennium

> Only hindsight is 20/20. When you look back on your life in 2020, what will you see? Do you have a dream? Why not? Now is the time to lighten up on precision and analysis, to imagine creatively, and to work on your foresight. Planning a little and setting some goals probably won't hurt either. If you don't enjoy the next 21 years, chances are good that the people you live and work with won't either. You've proved that you're smart—now comes the fun part. I-O psychology is an ideal springboard for just about anyplace you want to go. Don't reduce your intensity. Sharpen your vision. I-O psychology is THE field for the next millenium.

Six weeks earlier, I had sent an e-survey to CSIOP's members, asking for responses to six questions as well as reactions to the above abstract. I received many thoughtful and a few occasionally fanciful responses. One of my correspondents, Marc Berwald, Director of Organizational Development for Bell Mobility, Dorval (Montreal) Quebec, went above and beyond the call of duty, and here follows his response:

Marc Berwald: You want me to remember back to 1999...why, I can hardly remember 2019.

Let's see...that was when the big thing was Y2K...a lot of people made money on that one. That's when it seemed like Microsoft would eventually run the world; telecommunications, financial companies, pharmaceuticals, oil, and the car industry were busy buying each other out stating it was to serve the customer better...people freaked when the Dow hit 11,000...the Dow was the Dow Jones Industrial Average of the New York Stock Exchange, before NASDAQ bought them out; just before Disney bought the whole thing.

And I remember the air and the water...you could see for miles and water was as clear as can be, without the electronic filtering...and we thought it was dirty then. We really did not take that seriously until 2010, when 99% of babies

world wide were born with asthma and the World Health Organization was given power over industrial production. Things are a bit better now, but not like they were then.

You want to know about work psychology, or I-O psychology as it was known then...well it was in rough shape...in a real void.

The first sign that the science was in trouble in 1999 is that people still called it "industrial psychology" 100 years after the Industrial Revolution. It was akin to calling a WebMaster an electrical engineer. There was an information revolution going on and I-O people were working on industrial problems.

The second, much more profound sign, was the fact that most work psychologists did not work for the work organizations they were supposed to help. They were so specialized that they worked in consulting firms dominated by people with financial management. They used to call them the "Big 3." Another group worked for the very highly specialized firms which companies needed about 3 weeks a year to get some thinking and testing done.

The third sign was scary. The people who were doing the leading edge research in what were called "institutes of higher learning" relied on a paper-based, peer-reviewed medium for the dissemination of knowledge and recognition of achievement.

Finally, and probably most telling, the vast majority of research being conducted was incremental and based on previous work done by the same people. Organizations were thirsty for any type of valid thinking about change, about global people strategies, leadership and culture, about information overload and how to work with it, about getting things done quicker, about getting people to work in teams, about understanding customers better, about almost everything concerning people at work NOT found in mainstream I-O psychology. Job analysis was an outdated concept, performance appraisal methods concentrated on static tasks, whereas work was fluid. Selection technology which had been developed in the 60s, 70s, and 80s was being used. It was useful, but just not in solving the problems of the day.

Then three things happened:

1. HR-Out-of-a-Box. Most of what we knew about human resources principles, practices, and policies was built into intelligent software and made available on the World Wide Web for $59.95. Although research was going on in most of the areas, most people realized that when you put everything we know into a well-organized system, most of the key traditional areas were pretty well done with. Almost overnight, everyone could use state-of-the-art processes for recruiting, selection, performance management, job evaluation, rewards, training, health at work, to name some of the main ones.

2. ***The Electronic Journal of People at Work.*** In 2001, the readership of *Fast Company* and *Wired* by human resources professionals, academics, and managers surpassed that of all other scientific and professional journals combined. It was at that time that a group of psychologists who were looking for

work, tired of selling HR-Out-of-a-Box on the Internet for a living, got together with a group of Internet junkies who were doing interesting things in knowledge sharing and management and developed the concept of the *Electronic Journal of People at Work.* It was electronic, it was intelligent, it was networked, and it was 100% dedicated to generating coherent, intelligent, and, most of all, innovative solutions for people management at work—from freelancers to mega-corporations—and it dealt with issues which were 100% relevant 100% of the time.

3. Shortage of People. As the baby boomers got older, they started needing more goods and services, and consuming more and more. Because the next generations were much smaller in number than the boomer generation, there were not enough people around to do the work that was required. Automating tasks went from being an economic advantage to a survival issue. The key question became not whether you could provide a product or service cheaper than your competitor, but whether you had enough of the right people to do it at all. Over the span of 5 years, how you managed people actually did become the most important part of work organizations, bar none.

And this is what came next:

Researchers and academics decided that they would rather spend time thinking about and working on issues which people in work organizations actually cared about because the demand for innovation and knowledge on the crucial people issues was so high that public funds for other programs dried up. They decided to work with students on finding principles and solutions to current and emerging problems using the old journals as a historical backdrop rather than as the stimulus to the next piece of work. Training on the traditional aspect of HR moved to technical programs so that more research people would have time to explore the newer issues in more depth. And academics spent 50% of their time networking with practitioners, general business people, and academics from various disciplines in order to come up with innovative solutions and ideas to move business forward. Their contribution was obvious: They were highly motivated, because they were able to pick the issues that they worked on, and they added rigor and scientific knowledge to each issue.

Practitioners reconnected with the researchers and academics and brought their experiences in working with customers, and implementing projects in the real world to the process of finding and creating solutions. Customers participated in the process because it was focused on them. They saw the need to provide time, people, and money to help this new innovative institution grow and prosper. They also saw the need to provide funding to work on some longer-term issues.

And around this new "Journal," which was actually people producing knowledge, solutions and experience, grew a new way of producing, disseminating and using knowledge. The knowledge about people at work grew exponentially, and the management of people at work improved and became, for many organizations, the sole source of advantage over their competitors.

Now I can't remember whether university I-O got in the act or whether they were just replaced because the funding ran out. I also can't remember if any of the Journals got in on the knowledge management game.

What I do know is that the practitioners moved pretty quickly to make sure they were part of bringing these new solutions to organizations to ensure that they maintained an important role in the productivity of their work organizations.

I also know that what was I-O psychology grew from being a highly specialized supplier to becoming a body of knowledge which is used every day to run our work organizations.

Dateline 1999

The key question is: What can we do to assure that I-O psychology becomes a body of knowledge that is used every day to run our work organizations?

Send your comments to Milt Hakel (mhakel@bgnet.bgsu.edu). The comments will be collected and posted on a website, and perhaps in *TIP*, to stimulate thought and action.

Coaching and the SAT I[1]

Wayne J. Camara
College Board

Donald Powers
ETS

Over a million students take the SAT I each year as they prepare for the transition from high school to college. Many of these students and their parents struggle with the decision about whether to invest substantial amounts of time and money in commercial coaching programs in the hope of increasing their scores. Further complicating the decision are the claims of large score gains on admissions tests by many commercial coaching firms. On closer inspection the reportedly high gains are computed using flawed research methods, and the "guarantees" may simply permit students to continue participating in coaching programs at no additional charge after initially paying a large fee.

Coaching programs differ in terms of methods, duration, and objectives. Programs may differentially focus on one or more of three elements (Allalouf & Ben-Shakhar, 1998): (a) familiarity with the test (e.g., acquainted with instructions, item types and format, time limits, tools permitted such as a calculator); (b) reviewing content relevant to a test (e.g., reviewing the content of the mathematical reasoning portion of a test); and (c) learning 'tricks' or test wiseness, which includes strategies for guessing, eliminating some choices in multiple-choice questions, using time more efficiently, and avoiding errors (Millman, Bishop, & Ebel, 1965). Some programs appear to emphasize the content of tests, while others appear to stress quick tricks or test wiseness strategies. Jackson (1980) has noted that distinctions between short-term programs with emphasis on drills and test wiseness and long-term programs which more closely resemble supplementary education should be distinguished when examining research on coaching. The College Board has asserted that familiarity with the test is important—no student should go in "cold" to take the test and recent research (Powers, 1998) reports that over 97% of students prepare in some way when taking the SAT, with a mean of about 3 hours of preparation.

Formal, commercial test preparation programs tend to emphasize score increases, while shorter-term in-school programs and workshops appear to primarily focus on familiarity with the test. Increasing student confidence and reducing anxiety are also common across most forms of test preparation.

Becker (1990) identified nearly 50 studies of coaching on the SAT and nearly a dozen additional studies have been conducted since that time. Studies of coaching differ in a number of important areas making results more difficult to compare.

[1]This article is based on a more extensive paper by D. Powers and W. Camara, "Coaching and the SAT I", College Board Research Note 99-07, available from Wayne Camara, College Board, 45 Columbus Ave., New York, NY 10023, http://www.collegeboard.org.

Much of the differences found in studies examining the effects of coaching on the SAT "relate less to the nature of the coaching intervention and more to the (quality) of the coaching research itself" (Becker, 1990, p. 376). As distinctions between the types of studies are examined, differences in results can be better explained.

Uncontrolled studies simply examine the score change for students who have attended coach preparation programs. No effort is made to examine the score gain for comparable students not attending coaching programs in such studies. DerSimonian and Laird (1983) note that mean gains from such studies are about 40 to 50 points for SAT verbal and math scores, respectively. In such studies, any score gain from a test taken 6 months to 2 years earlier has been assumed to result solely from the coaching programs. Nearly all reports from commercial and formal test preparation programs are based on such simple score gains for a select group of students completing their program. Such research does not account for the average gain of 25 total points students who retake the SAT attain irrespective of whether or not they attended coaching programs. Several researchers have attempted to improve upon such studies by subtracting the typical gain for all repeat test takers (e.g., Slack & Porter, 1980); however, because no actual control group is used and substantial differences between students electing to complete coaching programs and other students can not be controlled, such studies represent the least rigorous type of study.

Controlled studies include those where a score gain for a control group is included and any score gain is defined as the difference between improvement of the coached and uncoached (control) group. In some studies, matched or randomized groups are included as the control, which further attempts to minimize any differences (e.g., grades, prior test scores, ethnicity, family income and education) between students in the coached and uncoached groups. Such studies are considered to be the most rigorous and objective evaluation of coaching's potential effects (Becker, 1990; Powell, 1993).

Four meta-analyses have been conducted on SAT test preparation programs. Several consistent findings emerge from previous research. First, the effects of coaching programs are 4 to 5 times greater in uncontrolled studies that do not include a control group than in controlled scientific studies. Results from DerSimonian and Laird (1983) are illustrated in Table 1 and demonstrate that more rigorous and controlled studies show substantially smaller effects for coaching.

Table 1: Mean Coaching Effect on the SAT by Quality of Coaching Study

Study design	Mean (standard error) effect on SAT Verbal	Mean (standard error) effect on SAT Math
Uncontrolled, single group studies	40.6 (10.1)	53.8 (2.6)
Controlled studies	15.3 (5.5)	15.6 (2.6)
Randomized or Matched groups	10.1 (3.5)	9.8 (3.8)

An unpublished study, from Deerfield Academy in Massachusetts (Franker, 1986–87) illustrates the need for control groups. At this private academy, 19 students completing a commercial test preparation course increased their total SAT scores by an average of 80 points—however, upon closer inspection, the identical average gain was achieved by 119 uncoached students at Deerfield. If a comparison group had not been used in this study, the increase of 80 points would have appeared quite impressive. When the score increase for students not attending formal test preparation courses is also considered, the effects of the test preparation are eliminated.

To date, large commercial coaching firms have documented their claims of large score increases through uncontrolled single group surveys of students completing their programs. Although sometimes verified by accounting firms, such surveys do not include control groups, have not been published in peer-reviewed journals and do not constitute scientific studies (Powers & Rock, 1998). In most of these studies the pre-test has not been an actual operational form of the SAT or PSAT/NMSQT but rather a practice test or released SAT administered under nonoperational conditions. Less effort and motivation is likely to result in a much lower score than an actual test administration.

Powers (1998) reports that in 1995–96, students spent an median of 11 hours in preparation for the SAT I, an increase of 1 hour in the past 9 years. At the extremes, 3% devoted no time to test preparation and about half of the students spent no money on it, while 10% spent at least 54 hours and over $135. The 12% of students attending external coaching programs spent the most money on test preparation activities. Taking the PSAT/NMSQT was the most frequent form of test preparation (81%), with reading and completing sample tests in the free booklet provided by the College Board, *Taking the SAT I*, cited by over half of students preparing for the SAT I. About 40% of students reviewed math books and 33% reviewed English books or vocabulary in preparation for the test, and about one-third of all respondents received preparation for the SAT I as part of their regular classroom instruction. Similarly, one-third of students purchased test preparation books and nearly 20% purchased software. While 12% of students attended coaching programs in 1995–96, 10% of students did so in 1992 and 11% in 1986–87. Similarly, between 5 and 7% of students reported attending private tutoring in surveys completed between 1986 and 1996. The only significant departures appear to be an increase in the use of test preparation software in recent years and a decrease in the number of students reviewing English books or vocabulary on their own.

Powers and Rock (1998) conducted the first study of the effects of formal and out-of-school coaching programs on the new SAT I introduced in 1994. They surveyed a stratified random sample of Juniors and Seniors who had registered for the SAT I in 1995–96. The approximately 4,200 students who responded to the surveys (63% of the sample) were representative of the larger college-bound population of test takers (Powers, 1998). A total of 507 students

(12%) reported attending an out-of-school coaching program, with 220 students attending a program conducted by the one of two major national test-preparation firms, with an additional 287 students attending a program conducted by another firm or organization.

Only those students who first completed an actual administration of the PSAT/NMSQT or SAT I, prior to attending the formal external coaching program and retaking the SAT I were included in the 'coaching group.'[2] Similarly, the students in the uncoached group, who served as the control group, also completed a PSAT/NMSQT or SAT I during the same period of time and retook the SAT I.

Coached Students Differ from Other Students in a Number of Ways

Students who enroll in formal external coaching programs differ from uncoached students in a number of ways, several of which are also related to performance on the SAT I. Coached students are more likely to:

- come from families with more formal education and higher income
- report their ethnicity as Asian American
- have higher degree aspirations
- have taken slightly more high school courses in math, science, and foreign language
- aspire to more competitive colleges (higher mean SAT I scores among applicants)

Coached students are also more likely to engage in multiple test preparation strategies than uncoached students. Twice as many coached students purchased the College Board's Real SATs or other test prep books, received private tutoring, and used study aids in preparation for the SAT. Coached students were also more likely to use test prep software, receive some SAT preparation in high school classes, and have taken the tests (PSAT/NMSQT and SAT I) more often. Overall, students attending external coaching programs were also more likely to engage in nearly all forms of test preparation, some at twice the rate, than students who did not enroll in such formal programs. Coached students were also much less likely to regard their earlier test scores as good estimates of their abilities and indicate good scores on the SAT were of more importance than uncoached students.

While matched or randomized groups of students were not used in this study, seven different analytic methods were used to estimate the effects of coaching on SAT I scores that controlled for group differences. These analytic procedures are generally more preferable and feasible for coaching studies than matched or randomized groups.

[2] That is, to examine the effects of external coaching programs, students first must have taken an actual admissions test such as the PSAT/NMSQT or SAT I (which could provide baseline data on their performance) prior to coaching, and subsequently take another SAT I following coaching.

First, a simple comparison between the score gains for the groups was made to establish a baseline. ANCOVA and repeated methods models were also employed. Earlier SAT I scores, previous grades, GPA, and the difference between the earliest SAT score and the mean SAT for the student's first college choice were the most important covariates. The inclusion of additional factors in the ANCOVA or repeated methods model led to only a slight reduction in estimated effects for the verbal test and had no effect for SAT Math. Other analytic models used were instrumental variable selection, the Heckman model, Propensity matching, and the Belson model. Several of these methods control for selection bias using probability of membership in a group, or a transformation of it in the second stage of a two-stage least squares procedure (Greene, 1981). More detailed explanations of these methods and their rationale are provided in Powers and Rock (1998). Here, we summarize results across these analyses. The Repeated Measures design only adjusts for differences in initial test scores between groups, and the Analysis of Covariance statistically controls for between-group differences on nine variables, including initial test scores.

Effects of Coaching on the SAT I

Table 2 illustrates the raw score differences between groups attending external coaching programs and other students. Coached students showed a 29 point gain on the verbal score, as opposed to a 21 point gain for uncoached students. In math, the gains are 40 points and 22 points respectively for coached and uncoached groups. As discussed earlier, the effect of a coaching program on SAT I score increases is not simply the average increase between admissions tests completed prior to and then subsequent to a coaching program. Computing such score gains, as often done by coaching firms, is flawed because it doesn't consider the average growth for comparable students that is attributable to student development, maturation, and growth through both in- and out-of school educational experiences, increased familiarity with the test, and error. However, when examining score gains for coached students alone, the 29- and 40-point gains are much smaller than claims by national test preparation firms.

When the score gain for coached and uncoached groups are compared, the raw effect of coaching is 8 points on verbal and 18 points on math. This residual gain (subtracting the gain for one group from the gain for the second group) does not control for the differences between groups in various characteristics described above which can also effect score gain.

Table 2: Mean Pre-SAT I, Post-SAT I and Gain Scores (and standard deviations) for Coached and Uncoached Examinees

Group	Pre-SAT I	Post-SAT I	Gain	Coaching Effect
		VERBAL		
Coached (n=427)	500 (92)	529 (97)	29 (59)	29-21 = 8
Uncoached (n= 2733)	506 (101)	527 (101)	21 (52)	—
		MATH		
Coached (n=427)	521 (100)	561 (100)	40 (58)	40-22 = 18
Uncoached (n=2733)	505 (101)	527 (101)	22 (50)	—

The effects of coaching were estimated based on raw score differences, as noted above, as well as with six additional statistical models. Table 3 illustrates the effects with raw scores, and six additional models. The effect of coaching is fairly consistent across analysis models, ranging from 6–8 points on the verbal scores and standing at 18 points for math.

Table 3: Effects of Coaching Based on Alternative Models of Analysis

Analysis Model	SAT I Verbal Mean Effect/	Std. Error	SAT I Math Mean Effect/	Std. Error
Raw Score (n=427)	8	(3)	18	(3)
Repeated Measures (n=427)	8	(3)	18	(3)
ANCOVA (n=235)	6	(4)	18	(3)
Propensity Matching (n=233)	6	(5)	15	(4)
Instrumental Variable Selection Model (n=235)	6	(4)	16	(3)
Belson Model (n=469)	8	(9)	26	(9)
Heckman Model (n=237)	12	(4)	13	(6)

The various analysis models were expected to yield somewhat different results, yet the largest average effect for coaching found using any of these methods was 34 total points, across both verbal and math scores. The average effect for typical coached test takers, across all models, was about 8 points for verbal and 18 points for math, or a total of 26 points. We can conclude that these are the typical effects for coaching, whether averaging across various models of analysis, using simple unadjusted raw score changes, or employing more sophisticated analytic techniques.

In addition, this study concluded:

- Coached students were slightly more likely to experience large score increases than uncoached students. Twelve and 16% of coached students had increases of 100 points or more on verbal and math scores, respectively, compared with 8% for uncoached students (same percentage for both math and verbal scores).

- About one-third of all students actually had no gain or a loss when retesting. On the verbal scale, 36% of coached students and 37% of uncoached students had a score decrease or no increase when retesting. On the math scale, 28% of coached students had a decrease or no increase compared to 37% of uncoached students.
- Students utilizing one of the two leading coaching firms do fare better than students utilizing other external coaching programs, but again, the effects of coaching are still small. The typical gains for students utilizing these firms were 14 and 8 points on verbal scores and 11 and 34 points on math scores (with an average increase of 10 points on verbal, 22 points on math, and 43 points on combined verbal plus math for the two major test preparation firms).
- There are no significant differences in scores of coached students on the basis of gender and race/ethnicity.

Discussion and Conclusions

Results from Powell and Rock (1998) are quite consistent with previous published research on the effects of coaching and especially consistent with results from meta-analyses and controlled studies. A summary of findings from the four meta-analyses of the SAT estimated similar mean effects for coaching.

In the most recent and comprehensive meta-analysis, Becker (1990) estimated a gain of 9 points on the SAT verbal score and 16 points on the SAT math scale, using studies with comparison groups.

Kulik, Bangert-Drowns, and Kulik (1984), examined only coaching programs which explicated test taking strategies (rather than those focused primarily on teaching content) and reported coaching effects of approximately 15–16 points for verbal and math sections of the SAT.

Results from DerSimonian and Laird (1983) are reported in Table 1. Using studies employing a comparison group, average effects for coaching are 15 points on verbal and math scores.

The study by Messick and Jungeblut (1981) estimated a mean coaching effect of 14 points on SAT verbal scores and 15 points on SAT math scores using controlled studies.

The exact effect of test preparation for the SAT cannot be stated unequivalically. However, results across four meta-analyses, over two dozen controlled studies, and the most recent comprehensive controlled study conducted by Powers and Rock (1998) suggests that formal test preparation programs are likely to result in an increase of between 9–15 points on the verbal scale and 15–18 points on the math scale. Larger score gains are usually found in math than in the verbal test. These figures are increases attributed to coaching that are beyond the average increase found across groups of students who did not attend formal coaching programs.

A number of other additional conclusions can be inferred from the body of research examining the effects of coaching on the SAT:

- The quality of the study, whether a single pre/post test gain is computed for students receiving test preparation, or more scientifically rigorous methods are used, will have a substantial impact on the findings. The more rigorous the study, the smaller the effects. Examining simple score gain for coached students in a pre/post design can be quite misleading.
- Longer coaching programs result in slightly larger score gains than shorter programs. After approximately 3 to 9 hours, additional time devoted to formal test preparation appears to have diminishing returns.
- We are aware of no controlled research which has examined the effects of intensive and long-term tutoring or supplementary educational programs, geared toward improving reasoning skills and content expertise, on SAT scores. However, previous research has demonstrated that rigorous course work and study can improve reasoning skills and performance on the test. A logical extension of this work would suggest that such long-term interventions, which more closely resemble rigorous and long-term academic study than commercial coaching programs which focus on tricks, strategies or test wiseness, may increase students academic skills and overall performance on tests which measure these skills.
- Students who enroll in formal coaching programs for the SAT differ from other students in terms of their aspirations, satisfaction with their previous test scores, family background and income, and ethnicity. And, such differences make simple comparisons between groups flawed.
- The effect of coaching on the SAT is considerably smaller than the effect of coaching for other aptitude and achievement tests (research summarized in Powers, 1993).

Collectively, these studies indicate that coaching has a small and consistent effect. A typical student enrolling in a formal test-preparation program can expect a total score gain of between 25 to 32 total points on the verbal and math sections, above what they could expect to gain without attending such a program. The largest effect found across the meta-analyses or the various analytic methods employed in the most recent controlled study would amount to about 2–4 more items correct on the 60-item math section and 1–2 additional items correct on the 78-item verbal section. Assuming that a typical external coaching program may cost over $750 and require 40 hours of class instruction (and perhaps another 10–20 hours of homework assignments), students and parents should weight the utility of completing a commercial coaching program against the benefits of devoting that time to other educationally relevant activities and extracurricular activities that are viewed as equally important for admission to, as well as eventual success in, college. A rigorous program of high school

courses, along with familiarity with the content and format of the SAT I and practice on actual tests, can help students prepare for college and the SAT I.

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The National Research Council's Committee on Human Factors (or "Human Factors: It's More Than You Think")

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In an age when both humans and computers think, and reality is both real and virtual, it should come as no surprise that a discipline initially limited to the interface between humans and machines finds it necessary to look beyond the components of that interface to be effective. Increasingly complex technical and social environments and expanded knowledge about human cognition and adaptability have stretched the "human" characteristics of machines and expanded the boundaries of human capacity to the point that identifying what functions belong to whom is difficult, and often not of much interest. The system's capacity, not that of its components, is what matters. Only the naive believe humans fly airplanes.

Human factors and I-O psychology share a common history. Both were born and nurtured by the pressing demands of two world wars. They endorse the common purpose of improving the fit between the demands of work settings and the knowledge, skills, abilities and values of people who populate those settings. Both also look to psychology to provide insight into improving the fit. While today, I-O psychology aligns itself more with individual differences and social psychology and human factors more with experimental/cognitive psychology and industrial engineering, at one time the two disciplines worked closely together. Each discipline learned about the other. In the last two decades, they have drifted apart. Textbooks in each domain are far less likely to devote chapters specifically to work of the other. Training has also separated. Human factors programs exist primarily in cognitive psychology or industrial engineering departments and I-O psychology in separate areas of specialization in psychology departments and business schools.

If you are an I-O psychologist who received your degree in the last 10 years, or one who simply has not paid much attention to human factors research in the last few years, you are in for a surprise. Much of what passes for human factors is also seen as I-O psychology. Selection, training, decision support systems, and the design of teams and teamwork are just a few of the issues being addressed by human factors specialists. We would argue that, in this information age, the disciplines are converging, but those who identify with one discipline or the other are often unaware of it.

Many of the issues important to both groups have potential implications for national policy related to work. To our knowledge, for I-O psychology there is no unit or organization that is specifically positioned to address policy issues.

This is not the case for human factors. The Committee on Human Factors (CoHF) of the National Research Council (NRC) provides a means for publicizing psychological research issues related to work and technology. Yet, the existence of the committee and its activity is largely unrecognized and certainly underutilized by I-O psychologists. In some small way, we would like to change that. Read on.

NRC Committee on Human Factors

First, a bit of background. The NRC is the operating arm of the National Academy of Sciences which was established by Congress during the Civil War to give the government independent, informed advice on public policy from the perspective of science. The work of the Academy is accomplished through boards, commissions, committees, and panels that are defined largely in terms of the kinds of questions posed and the scientific disciplines that are likely to be able to speak to the issues. Some are continuing bodies of the NRC whose continuation is justified by the assumption that the issues in their domain arise frequently, are of high national priority, and require constant attention. Others are assembled to address a specific question and then disband. Recent panels on work and learning, productivity, and performance measurement were of the latter type. In all cases, a number of I-O psychologists were involved (e.g., **Chuck Hulin, Kevin Murphy, Ken Pearlman, Bob Pritchard, Paul Sackett, Neal Schmitt**, and many others).

In contrast to the temporary taskforce-like panels, the CoHF is a standing committee. As such, it is in a position to have a lot of impact. The very fact of its existence denotes a belief in its national significance. As a standing committee, it is often called on to give focus to general issues and to comprise panels of experts to study particular problems. The committee's impact is felt both in framing problems and in identifying expertise to study the problems. Some current issues before the committee are those of the extent and nature of work-related musculoskeletal disorders, the use and design of simulations for training and other uses, and training transfer. Panels, workshops, and other mechanisms are used to address problems, and the results of these deliberations are often published by the National Academy Press. Examples of recent publications are: *Work-Related Musculoskeletal Disorders: A Review of the Evidence* (1998), *Representing Human Behavior in Military Simulations* (1997), *Flight to the Future: Human Factors in Air Traffic Control* (1977), and *Workload Transition: Implications for Individual and Team Performance* (1993). All told, the committee has been directly or indirectly responsible for 27 reports.

In recognition of the broader social context in which work takes place, the committee is comprised of persons whose work falls directly in the area of what would typically be considered human factors and others whose work falls outside that domain. Currently there are five SIOP members who serve on the fifteen member committee—**Bill Howell** (committee chair), **Dan Ilgen, Larry

James, Kurt Kraiger**, and **Karlene Roberts.** In sum, the CoHF is a valuable source for making a case for addressing all kinds of work place issues. Competitiveness in a world economy, the availability of a workforce with the KSAs to meet future demand, work motivation, and safety and health are all issues critical to national policy decisions and are issues to which I-O psychologists contribute a great deal. The CoHF provides a vehicle for making those contributions known and bringing to bear existing knowledge for addressing particular concerns that involve these issues.

Continued Support Needed

Few would deny that the need for an NRC standing committee focusing on work, the worker, and the workplace is as critical today as it was in 1980 when the CoHF was established. If anything, the need is greater due to greater complexities in the economy and in the diversity of the nature of work and the workforce. However, core support for the committee has declined due to the increased reluctance of government agencies and other sponsors to support units with nonspecific, long-term objectives rather than narrowly focused projects with short-term products NRC committees depend on support from organizations for much of their operating budgets. A very real concern is that, without the existence of a standing committee with an explicit objective to focus on workplace issues, activity directed toward such issues will diminish and the impact of scientific knowledge directed at these issues will be reduced. The challenge for the committee is to maintain its commitment to long-term work-related issues. At the same time, it must work to provide short-term products consistent with sponsors' needs for immediate accountability.

There are a number of ways that SIOP members can help. A necessary condition for all is awareness of the committee and its function. We have written this article for *TIP* to address that issue. Beyond awareness, consider how your work or the works of others may impact national policy and ask how the committee might foster that impact. Workshops, panels and other means of making the state of our knowledge known are typical means of disseminating information. Ask what agencies or organizations would benefit most from knowledge on particular issues and how these units might be approached to sponsor an investigation of the issue by independent experts. Finally, visit the web pages of the NRC (www.nas.edu/nrc), the CoHF (www2.nas.edu/delhp/20fe.html) and the National Academy Press (www.nap.edu) to review books and other documents available for use in classes, workshops, and other places where authoritative reports on particular topics are needed. These and other suggestions are welcomed by the committee members to help sustain and extend a presence for impacting policy related to work that is grounded in the science of our field.

Should We Be Driving Technology Solutions or Just Be Passengers on the Wild Ride? A Positive Look at Our Field and Technology

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Recent articles in *TIP* have discussed technology issues, specifically the Internet, and the practice of I-O psychology (Harris, 1999; Stanton, 1999). In general, these articles indicate the acceptance of Internet technology in I-O psychology practice as slow but gaining speed, and with very cautious applications. I would like to suggest, as have other writers, that our discipline take a more proactive, positive approach in driving technology-based solutions with sound scientific grounding. I-O as a discipline constantly struggles with the balance between science and practice; I can't think of a better arena for I-O psychologist to step up to the plate and lead the definition or practice of technology-based solutions for the field. We should be discussing the important needs from the field, designing creative technology-based solutions with multidisciplinary teams, and relentlessly driving the importance of the scientific rigor our field offers in the development process. The purpose of this article is to characterize the practice of I-O psychology in terms of its present state in adopting technology solutions, identify some of the major issues from the field we are being asked to address and finally discuss possible technology driven solutions to these major issues. In the end, I hope readers will generate some research ideas, identify business needs or directions, and continue thinking critically, but also proactively about technology solutions in our field.

"Late Majority" Technology Adopters

In *Crossing the Chasm*, a Technology Adoption Life Cycle is proposed for the main purpose of marketing technology solutions (Moore, 1991). However, you can use the groups that are defined in the life cycle to describe the acceptance level that the field of I-O psychology has toward technology. I-O psychology has accepted the technology boom of the past decade, but the field in general, has not been mixed with leading edge technology development. Drawing from the Technology Adoption Life Cycle, the field of I-O psychology can be described as a group in the Late Majority range.

The first half of the Technology Adoption Life Cycle consists of three groups: Innovators, Early Adopters, and Early Majority. The Late Majority and Laggards make up the end of the adoption life cycle. Innovators are characterized as the people who buy the new gadgets even while in their alpha or beta stages because they are cool. Actual value or business needs are secondary reasons. People who bought the *Palm Pilot I* 3 years ago are examples of Innovators adopting a new technology. People who have recently purchased the *Palm Pilot V* could be considered Early Adopters because they realize the current and future benefits the product provides even with its little quirks. The Early Majority has yet to adopt this technology. Another example is neural networking software that has been available since the 1980s. This software is very exciting because it contains the potential for computers to teach themselves and develop solutions without the computer programmer. However, 10 years later, adoption of this software is still in the Innovators stage.

I know some I-O people are in the Early Adopters even Innovators range, but the field as a whole falls into the Late Majority range. This may be due to the fact that I-O psychologists relate more with business people and senior managers and less with the technical gurus. Nonetheless, the Early Majorities in the field are screaming for more technology and more streamlined approaches. This means our discipline is being requested to leave the cushy, comfortable Late Majority stage and cross into the Early Majority with our solutions. This is scary and exciting at the same time and calls for us to cross train and work in more interdisciplinary teams. We should learn more about the nuts and bolts of the technology solutions we implement and work hand-in-hand with the information technology (IT) professionals who create the software. The field of I-O psychology, voluntarily or not, is beginning to delve into technology with both feet forward and the wild ride may be just beginning.

Screams from the Field

Let's go back to the early 1990s. During this time period most practitioners were still creating or using paper-based tools. Then individuals from the field began calling for automation of our paper and pencil approaches. We responded with PC administrations of our selection instruments, surveys, performance management tools, and a variety of other applications. This software was definitely not slick or sexy by today's standards, but it got the job done.

Currently, some practitioners are creating developmental initiatives and others are finding themselves behind the eight ball and scrambling for solutions in response to inquiries from the field. People are asking for *quick* and *intriguing* technology applications that provide the same amount of reliability, validity and scientific rigor as our current instruments. Anymore, simply placing a 3-hour test battery on a PC is not more intriguing or efficient than the paper/pencil version. However, great strides are taking place with some technologies like computer adaptive testing (ETS only administers a CAT version of the GRE), multimedia (video and audio), telephony (telephone technology), and Internet administration.

An interesting by-product of initially automating our tools in the early 1990s, was our awakening of the many obstacles to overcome when implementing a technology-based solution. Project overruns, misunderstood expectations, poor implementations, and unneeded technology solutions were just a few of the fun experiences we discovered when initially developing technology solutions or

product. I know many I-O consultants and practitioners today that steer away from technology solutions because of these negative experiences.

Being aware of, and overcoming, these hurdles should make us realize the importance of the interdependency between the I-O professional and the IT expert. In a recent article in *InfoWorld*, the author discusses the tenuous relationship between HR and IT professionals, how they can be at odds with each other, and ways of generating a productive relationship between the two professions (Raths, 1999). The most successful technology projects I have witnessed, or been a part of, included equal collaboration between the IT experts and the I-O experts from both the client and vendor sides. On the other hand, less than adequate communication and collaboration within the multi-discipline team creates project overruns, missed deadlines, scope creep and some of the other negative experiences mentioned above. Treating the IT professionals as strategic partners in our initiatives pays big dividends, rather than treating them as a support function, which typically reduces the dividends. Building and using high producing multi-disciplined teams is another article, but suffice it to say, the success of technology solutions will live or die by the collaboration and mutual respect between all parties in technology projects.

Next, I would like to discuss some of the major issues facing practitioners today, and discuss creative ways to address these issues with technology solutions that I-O professionals could drive. Technology does not have to present the whole solution, but a piece of technology could be in the solution. The following characterize some of the major issues that practitioners are facing in today's booming market:

- A shrinking qualified labor force
- A call to streamline our assessment, selection, and development programs
- The need to make data collection less obtrusive and more interesting
- Creating streamlined and engaging approaches to disseminating information
- Implementing ways to develop and retain the best employees
- Helping the HR department be a strategic business partner and impact the bottom line

With these issues in mind, we can help our clients grow their business using the tools of our trade in conjunction with the technologists' tools and services. However, some of our procedures are time stamped and do not meet the needs that today's market demands. In the next section I will present possible technology-based solutions to some of the major issues being faced in the field.

Technology-Based Solutions

Recruitment

A shrinking qualified labor force or more demand than supply for many positions has sparked a tremendous growth in the recruitment business. This

applies to positions from the bottom to the top of the food chain. Obviously information technology (IT) positions seem to have the lowest supply with the highest demand. Businesses are screaming for more technical people and this specific labor shortage is expected to last another 5–10 years, at a minimum. Even jobs lower on the food chain are becoming harder to fill with qualified candidates. For example, customer service representative and administrative support positions do not have the plentiful supply of qualified applicants they did 5 years ago. Recruitment solutions blending technology and I-O principles can have a large impact on an organization's bottom line.

I will cover two delivery avenues that can be used to assist in the recruitment of talent for lower-level positions and professional/technical positions respectively. First is the use of telephony to help recruit candidates for lower-level positions. The second is the use of the Internet to assist in the recruitment of professional and technical candidates. As Internet use demographics grow and expand, most recruitment strategies will begin to revolve around this delivery avenue.

Telephony: Telephony has been used in a variety of HR solutions ranging from disseminating compensation and benefit information to assisting employment practices. Using sophisticated telephony to assist in the recruitment and hiring process is gaining interest and actually in use, to some extent, by all major consulting houses. Interactive Voice Response (IVR) functionality is the core to this technology. Essentially, IVR functionality is when the computer queries the user to enter a response by pushing the telephone keypad or speaking clearly into the phone. This entered response then prompts another query from the computer. For example, when you call to get your credit card balance, an IVR system typically provides the information you need by asking you a series of questions in which you respond by pushing numbers (your account number) on the telephone keypad.

Implementing telephony delivered solutions typically include multiple features, sometimes human interaction will come into play, but most systems will use the IVR functions. Human interaction is typically built into the process to increase the "high-touch" aspect of the implementation or because the software has yet to be developed to automate the process. Below is a list of some of the features typically used when implementing HR telephony solutions:

- Survey administration (satisfaction, employee, etc.)
- Present job-opening information
- Provide realistic job previews
- Gather basic data on potential candidates
- Deliver multiple-choice or Likert-type assessment tools
- Schedule candidates for the in-house phase of a selection program
- Administer role-playing scenarios for phone operator jobs
- Provide caller immediate feedback as appropriate

Traditional job advertisements (newspaper, radio, billboard, TV, etc.) are used that display a toll-free number to access the telephony system. Once in the system, the candidate can receive information about job openings in the geographic areas of interest and then drill down into job previews, assessments, and scheduling for the in-house selection procedures (interviews, testing, etc.). Some consulting arrangements I have witnessed used telephony systems to process over 100,000 calls/inquiries in 2 to 3 months. The callers were informed about the job(s) requirements, the company, and prescreened on basic qualifications. These systems, used primarily for prescreening and scheduling, have ultimately pushed 20–50% of the callers into the in-house applicant pool. In these case scenarios, the process did not use any internal human resources and ultimately increased the applicant pool. Bottom-line impact was immediately realized. Obviously, automating the selection procedures will then continue to carry these benefits through the entire hiring cycle.

In addition to recruitment and prescreening, using the automated scheduling features from telephony systems can greatly assist organizations in large-scale selection programs. For example, many large-scale selection programs have been built, validated, and ultimately outsourced to vendors. These selection programs are typically multiple-hurdle models with resource intensive requirements to handle the logistics. Imagine the resources to contact 1,000 applicants by phone for a testing phase, then scheduling the second and third hurdles also by phone. Telephony can significantly reduce the resources required to conduct a large staffing process that will directly impact the bottom-line. As in the example above, the IVR system can receive the initial call, educate the caller about the position opening, collect basic information from the caller and schedule the candidate for the first testing hurdle. After the first testing hurdle, candidates can call into the jobline with a pass-code to find out if they have passed onto the next hurdle and get scheduled for that phase of the selection program. This process can be repeated, as many times as needed until the hiring procedures are complete. With this model, human resources are required to process the candidates through each selection procedure; which is where the high-touch aspect is of real value. The more remedial tasks are automated.

Internet: The second type and fastest growing technology for recruitment is the Internet. Currently, recruitment over the Internet is primarily used for professional and technical positions because these are the largest Internet users. Internet use grows daily and will easily be the premier recruitment avenue for most positions in the coming years. In fact, most technology gurus expect television to be the primary viewing source for the Internet in the next 3 to 5 years. Accepting this growth means we should be developing our tools for primary delivery over the Internet.

Recruitment over the Internet typically involves the recruiter performing most of the leg work by actively mining for resumes, posting job openings on various sites (e.g., monster board, career mosaic, etc.), or announcing positions to specific

user groups. In addition, most companies are posting job openings off their home page. All of these activities are usually accompanied by the traditional methods of print announcements through newspaper, college boards, or society newsletters.

What separates one company's recruitment strategy from another is the impact on the candidate. Candidates in the current market are looking for efficiency in finding relevant information about the company, selecting the companies for which they would consider working, and ease in providing information about themselves. On the other hand, the company is obviously looking to gather as much data on the candidate as possible. A typical candidate screens the company as much as the company screens him or her, and a blend between these two sets of issues is starting to emerge for the recruitment and selection of professional and technical candidates. Organizations want to provide an engaging experience while the candidate researches their position openings, submits relevant data, and possibly completes an online assessment procedure. The timeline from contact to hire for these positions is short and therefore, the boundaries between the typical recruitment and selection functions are beginning to disappear.

With this idea in mind, abbreviated online assessment tools mixed with very engaging message deliveries will get noticed and completed by a very tough applicant pool. Professional and technical applicants, especially the technical candidates, are the passive job seekers in the current market. Creating engaging online experiences educating them about the company and position, and gathering quick assessment data is the key to reaching this applicant pool. *As the I-O representatives in this market, we must push for the abbreviated assessments to be founded in job analytic results while still trying to maximize psychometric rigor appropriate for the use.*

As psychologists, we can also help with the message design by ensuring two things. First, we can ensure appropriate information is presented to the candidates so they can evaluate and decide if the company is a good fit. This area is wide open for research. A poster paper at the last SIOP provided a good research review and basic start on studying applicant impressions of web-based recruiting (Scheu, Ryan, & Nona, 1999). Second, we can use our organizational analysis skills to ensure a company portrays a realistic image of its mission, vision, values, and culture. For example, if a company is an innovative and creative place to work, the site should be represented as such. Equally as important to the message, is developing an engaging delivery system (simply being delivered over the Internet is not new anymore) and we must work with designers, developers, and database experts to accomplish this feat.

For example, integrated multimedia is currently being used to deliver the company message and abbreviated assessment tools in an engaging/entertaining fashion. Integrated multimedia delivery is like viewing a TV commercial over the Internet with more graphics and text than sound, and the commercial requires responses from the viewer (applicant). The site collects the response data and can score it and provide immediate feedback to the user or at a later

time to the user or a recruiter. Completing a recruitment site like this typically takes 10 to 30 minutes depending upon the length of the message and assessment content. Longer sites have been built, but used primarily for developmental assessment and will be discussed in the next section.

In my review and experience with online recruitment and assessment solutions only a limited number of sites provide the unique blend of multimedia delivery and interactivity I just described. The majority of implementations are very text based, typically with corporate logos and graphics. Some sites just contain basic job postings with a reply link to submit a resume. More complicated employment sites contain resume captures or fill in the blank pages to submit your resume information and long competency based assessments. These sites can take an applicant anywhere from 10 to 90 minutes to complete depending upon the depth and breadth of the information being gathered.

Given the continually significant growth in use of the Internet, the convergence of the Internet and television for delivery, and blending the recruitment and selection functions, we should be prepared for our tools to receive wider distribution and larger audiences. The issues raised by this thought are staggering, such as test security, privacy, timing tests, and applicant verification. The integrated multimedia software I discussed above accounts for some of these issues but others still need to be addressed. In fact, multiple, shall we say, lively discussions occurred at the last SIOP around these issues.

Development and Retention

Finding qualified professional and technical talent is serious business for most organizations. For example, IT professionals are in such demand they have become passive job seekers. Posting their resume on the Internet can yield three offers in a few days. Large incentive packages exist for qualified referrals, big commissions for recruiters, and inflated signing bonuses and salaries are commonplace in the field of IT recruiting.

Selection programs "screening out" candidates are of little use when considering IT professionals. Even large computing and IT consulting houses have difficulty generating the applicant flow to warrant detailed selection programs. Some organizations, because of market recognition have better statistics, but they are the exception.

In the current market, retention of valuable human capital is tantamount to organizational success. With many IT and professional employees, a key to retention is continuous training and development. As with recruitment, the Internet will become the main distribution channel for developmental assessments and training modules. However, the main delivery channels for training programs are still paper-based with presenters, and PC administered usually via CD-ROM. Typically the deciding factors between paper-based and CD administration is the developmental timeline and the frequency of changes required to keep the training material current.

Training materials delivered via a CD are very commonplace, interactive and multimedia driven. On the other hand, the developmental timelines can be very long and the content becomes static once created. After development is complete, CD reproduction is inexpensive and probably cheaper than reproducing paper-based programs. For training programs that have a long shelf life, CD development is typically worth the investment. However, paper-based administration is more efficient for training programs that have short development timelines or require frequent modifications.

Most Internet training modules are predominately text based and not much different than transcribed paper materials onto web pages. The benefit of these systems is the centralized location of the material, ease in editing or modifying the content, and simplicity of updating the web pages with the modified content. Once the changes are made and the site is updated, the task is complete and the entire audience has access to the updated training program. Certification training and testing could be an easy adaptation to this type of Internet administration.

However, more engaging and creative techniques are being used to deliver training over the Internet. As with recruitment and selection, Internet delivered developmental assessments and training are currently being created to incorporate integrated multimedia. In-basket simulations, limited two-way interactions, and built in feedback mechanisms are common features for these systems. One of the benefits of these systems over CD-delivered systems is the database back-end. For example, the responses and decisions an employee makes during an on-line simulation are recorded and can be used to immediately provide individual feedback. Also, the database that is used to generate the feedback also stores the responses and grows with each use. The database can eventually be analyzed (validated against a variety of criteria) and used to modify and streamline the simulation or training module.

These systems provide coaching feedback at any time period desired. For example, as a person makes a decision, answers a question, and so forth, the user can receive immediate coaching messages concerning his/her input. After the trainee receives the feedback, he/she proceeds on with the training module. Feedback can also be given after a section of the module has been completed providing a practice-learn-practice administration.

Internet-delivered, integrated multimedia training sessions are more engaging and stimulating for the trainee as well as self-paced. In addition, administration of training modules can be automatic with a link for the training module site provided in email reminder messages. The trainee, HR administrator, or manager can devise the training schedules, and the automatic email reminders can be sent multiple times leading up to the training time. Let's take this one step further, and break the interactive training sessions into half-hour practice sessions. Every day, for 30 minutes, the employee could proceed through a short interactive practice session ultimately completing the entire training module within 2 weeks. Instead of using static training modules delivered at certain

times during the year, we should try to cater to the learning worker by providing dynamic, ongoing practice sessions.

Current thought about the high turnover of technical workers and how to retain this talent typically involves providing continuous training, job variety, quarterly reviews of workload, and treating the technologist as a valuable member of the organization. Working with a multi-disciplined team, we can create the short, ongoing practice sessions discussed above to assist in the retention of the technical worker. We can also assist by developing the team leaders and project managers on how to address some of the needs of the IT professional.

Conclusions

Very exciting things are happening with technology in and out of our field. Regardless of our specific role or use of technology, we should be aware of what is happening, because willingly or not, it will begin making a larger impact on our field and us. With the speed that technology is being created in today's market and the globalization of these technologies, the only restrictions on the solutions we are able to generate are the boxes in which we choose to live. Creative solutions can be generated with scientific foundations. I hope this article has spurred some thought on the benefits of using technology, prompted some research ideas, and raised a few eyebrows.

Having been involved in the design and implementation of technology enhanced solutions for a number of years; I have seen the good, the bad, and the ugly. We as a field, need to pull the car out of the garage and begin driving the development. It will be a wild ride, but a ride I prefer to take with my eyes wide open, hands free, and sitting in the front row!

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Biography

Nathan Mondragon has held management and director positions with Aon Consulting and SHL Aspen Tree implementing a variety of solutions for Fortune 500 companies Currently, he is a Partner with graymattermedia, Inc., creating intelligent multimedia Internet applications for recruitment, selection, training, and survey administration. Please direct questions or comments to nathan@graymattermedia com or (307) 745–6866.

Views of Academic I-O Psychologists Toward Internet-Based Instruction

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Recent writings in *TIP*, such as the "Work in the 21st Century" series by **Karen May** (May, 1998), as well as articles by several others (e.g., Cascio, 1998; Craiger & Weiss, 1998), have discussed how a variety of I-O practices, teaching, and work itself may be impacted by technological advances such as the Internet. In the last issue of *TIP*, Harris (1999) discussed the use of the Internet among I-O professionals. Harris concluded that the uses of the Internet included e-mail communications, information gathering, psychological assessment, and survey administration. However, Harris surmised that the potential uses of the Internet within I-O psychology "...have been relatively unexplored." As evidence of the importance of this topic to the contemporary scene, the April 1999 issue of the *APA Monitor* presented a cover story on the use of the Internet for instruction (Murray, 1999). This article reported that one-third of teachers in higher education are currently using the Internet in the classroom, albeit in a variety of capacities. Despite this fact, more empirical data on Internet use in academia would be welcome.

To this end, this paper reports the findings of a recent survey of a national sample of I-O faculty regarding attitudes and use of the Internet for instructional purposes. In addition, we asked our sample to rate the perceived *benefits* and *shortcomings* of web-based instruction.

Findings

Our original 3-page survey was sent to 100 doctoral and master's-level I-O programs in the United States. On average, three surveys were mailed to the coordinator of each program for dissemination to relevant I-O faculty. A total of 82 usable surveys were returned. The sample represented the following characteristics:

a) Rank: Assistant Professor = 51.2%
Associate Professor = 23.3%
Full Professor = 22.0%
b) Gender: Male = 62.2%; Female = 37.8%
c) Years taught (university level): Average = 10.3 years
d) Institution level: Masters = 42.7%; Doctoral = 56.1%

Attitudes Toward the Internet

The initial set of questions asked respondents to rate the perceived attitudes of their institution and department on Internet use for teaching, as well as their personal views on using the Internet for instructional purposes. These items

were rated on a 5-point scale from (1) *very negative* to (5) *very positive*. Next, respondents were questioned as to their extent of Internet use for teaching undergraduate and graduate courses, followed by an item on the perceived efficacy of the Internet for instruction.

The results were as follows:

Internet Attitudes:	Mean	*SD*
Institutional	4.5	(.69)
Departmental	4.0	(.86)
Self	3.9	(.88)
Internet Usage:		
Undergraduate	2.3	(1.0)
Graduate	2.6	(1.1)
Perceived Efficacy	3.6	(1.2)

We analyzed the above ratings by gender, rank, and years of university/college teaching and found no significant differences. These findings are somewhat surprising in light of prior research indicating that females and older individuals tend to be more anxious and/or resistant to computer use in general (e.g., Brosnan, 1998; Rousseau & Rogers, 1998).

Instructional Usage of the Internet

We provided a 9-item checklist to more specifically assess the manner in which our sample utilizes the Internet for instruction. These results are summarized below:

	Percent Use
Internet-based syllabi:	28.0%
Distance learning:	8.5%
Assignments	35.4%
Testing	8.5%
Tutorials	13.4%
Exercises	29.3%
E-mail	75.6%
Assessing scholarly literature	59.8%
Presenting course content	20.7%

(*Note*: Respondents could endorse more than one item).

One question asked respondents to assess the extent of formal training they had received in the use of the Internet for instructional purposes. Surprisingly, I-O instructors indicated relatively little formal training along these lines (*M* =

1.7, SD =.80). This finding appears contrary to the perceived acceptance of Internet use by university administration.

Perceived Benefits and Drawbacks

In the last section of our survey, we provided a list of commonly discussed problems and benefits to using the Internet for instructional purposes (e.g., Daly, 1997-1998; Hodes, 1997-1998). The respondents rated each item on a 5-point scale ranging from (1) *none* to (5) *extensive*. These findings are outlined below:

Problems/Obstacles	Mean	*SD*
Reliability of information	2.6	(1.2)
Interpersonal interactions	2.1	(1.1)
Technical problems	2.7	(1.0)
Time-consuming to prepare	3.3	(.92)
Confidential concerns	2.2	(1.2)
Archival/retrieval issues	1.8	(.90)
Benefits		
Assess to information	3.9	(.88)
Convenience	3.8	(.92)
Adaptability to changes	3.0	(1.2)
Ability to reach audience	3.0	(1.5)
Ease/speed of communication	3.5	(1.2)
Remote assess for students	3.6	(1.2)

Conclusions and Implications

Our findings indicate that I-O faculty possess positive attitudes toward the Internet for instruction, while perceiving their department and institution to be favorably oriented toward this technology as well. In addition, the respondents believed that specific benefits to using the Internet for teaching-related activities were greater than its shortcomings. Indeed, our respondents saw the Internet to be quite effective for instructional uses. Despite this belief, they are presently incorporating strategies for both undergraduate and graduate-level teaching to only a moderate degree. That is, we found that I-O faculty tend to use the Internet for instruction in a fairly rudimentary fashion (e.g., e-mail, literature searches). These findings imply that I-O academic psychologists have not yet realized the potential of Internet-based instruction and have not fully integrated technological applications into their coursework. What may account for the relative lack of incorporation of high-powered technological applications within our sample (e.g., distance learning, interactive instruction, testing)? Given the present findings, one reason may be the perception that a sizable expenditure of time is required to develop an Internet-based course, which was also echoed by

instructors in the *APA Monitor* article and in a recent paper by Hantula (1998). Another potential factor, based on our results, is the relative lack of formal Internet-related training.

If I-O instructors are to meet future educational needs based on information technology, it appears prudent for academic institutions to provide faculty incentives and skill-based training. Although there is a possibility that our sample may be overly optimistic toward Internet use, many unresolved issues still remain for the next generation of I-O faculty and students.

In summary, our findings point to several succinct areas that need to be addressed:

- How should information technology training be offered to I-O faculty?
- Should I-O curricula reflect changing roles of I-O practitioners which may be based on technological applications?
- In reference to the Karen May series, to what degree will the Internet affect I-O practices, and how will these changes alter the way faculty train I-O students? (e.g., What will be the job requirements of I-O academicians in the future?)
- What will be the role of traditional instruction in an Internet-based world?
- What role and function should SIOP play regarding these issues?

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The State of Telework Research

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Eli Lilly and Company

I applaud Cascio's (1999) call to arms as an I-O psychologist, practitioner, and passionate advocate of telework. To hear the I-O community tell the story, decision makers are acting in an absence of data—or, worse yet, using methodologically flawed data. From an organization's perspective, however, there are other data driving the decision to implement, and how to implement telework programs. These data are of value even though they come to us from another practice area, organizational experience (i.e., war stories), internal organizational research, and a desire to establish a competitive edge (i.e., responding to employee feedback or raising productivity). Interestingly, in the implementation of telework programs and popular literature, information systems seem to dominate the focus of telework. Somehow the "people" component of teleworking has been subject to anecdotal accounts and, in some cases, pure speculation. As an I-O community we must examine the issues behind the "debate" in *TIP* as of late.

How is it that we are currently in this situation of not being value-added to organizations by providing guidance via "rigorous empirical" research? I often find myself amazed at how the division between "science" and "practice" can become such a huge chasm. In this case we see a prime example. On one hand, Holland & Hogan (1998) are lamenting over the adoption of a practice (i.e., teleworking) which lacks supporting empirical research. Cascio (1999), rightfully so, points out that there is available research (albeit flawed) and suggests we (the I-O community) are at fault for not providing the appropriate guidance. In the meantime, decision makers are implementing telework programs at an incredible rate. How did this come to be?

Below are presented what I believe are the root causes to this problem. I am not suggesting this is an all inclusive list, or that taking a critical look at how we got here is a comfortable process. What I am suggesting is that we have met the enemy and it is us! It would behoove us, as a community, to take a moment to reflect on this.

Forming Collaborative Relationships

One reason we do not see research in "mainstream literature" is a lack of collaborative relationships between academia and organizations. One possibility is that we, as I-O psychologists, have not stood up and taken our place at the table regarding this issue. For the most part I believe this to be true. Anyone who works in an organization knows that research agendas do not just happen, they are driven. Some have, however, taken the initiative to establish a collaborative relationship(s) with organizations. Illinois Institute of Technology's I-O program has been successful in doing this with two organizations that I

know of—a large mid-western telecommunications firm and an international consulting firm. However, the fruits of this labor have, thus far, been unacceptable to the I-O community because they are not "rigorous" enough. Results have, however, been presented in circles outside the I-O community. In one case results were presented at the Academy of Management (deLay, Ayman, and LoVerde, 1996) and in the other, preliminary results were presented to the American Evaluation Association (Tate and Tucholski, 1998).

Meeting Rigorous Empirical Research Standards

Why is it that current research in this area does not meet the rigorous standards required to be considered "empirical" research? One explanation is that teleworking is a practice in its infancy. Because of this infancy, the very nature of this phenomenon has not lent itself to the rigors of academic research (operational definitions, experimental design, etc.). As we are working through ambiguity it can help us fully understand the phenomena we are studying (Cole, 1999). It seems we are unwilling to accept that this developmental process may somehow be related to how we measure. Furthermore, real-world research often does not meet the rigors of "empirical" research. This does not make it bad research with bad results. It makes the research (and the following results) limited. Teleworking is not a phenomenon that lends itself to the traditional pool of research subjects—undergraduate students. We must learn to accept limitations of real-world research and forge partnerships that provide opportunities to fine-tune our research as the practice of teleworking grows.

Access to Subject Pools

This brings me to the next point. Access of subject pools to researchers. Access, in this case, means coming into organizations and conducting research. There are many challenges associated with this—the first one being the establishment of collaborative relationships between the practitioners and scientists of I-O psychology. The difficulties in establishing the partnerships are very real. Academics must adhere to ritualistic time-frames required in their research arenas and practitioners are constantly under pressure to adhere to short, and often compressed, time-frames for conducting their research. The other challenge faced by practitioners, particularly in the case of teleworking, is they may not know about the implementation of a pilot, or program, until it is well underway—thus eliminating the possibility of gathering baseline data.

Conclusion

It seems clear, given the current situation (which is likely a combination of the above mentioned issues) that the I-O community has an incredible opportunity. Ownership for the telework program within the organization is varied. Sometimes ownership is in HR, sometimes in the technology group and, often

groups of stakeholders form a steering committee. We should be members of these steering committees or, at the very least, provide consultation to them. We can bring value in many different ways—one of which is to provide guidance and consultation regarding evaluation of the program—thus opening the door for rigorous research.

Currently, the International Telework Association and Council has assembled a Blue Ribbon Panel to establish "recommended practices" for the implementation of telework programs. As co-chair of this panel, I feel the time is right to open a dialogue between the communities of I-O psychologists and telework practitioners.

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When Disaster Strikes: Where Are the Psychologists?

Jim Morrison
The Company

The preferred setting for this monologue would be a one-on-one dialogue with each Division 14 psychologist. As a long-time member of this esteemed group, my several sorties into your consciousness via *TIP* have fallen on mostly fallow ground, and mostly due to my inadequate communication skills, I must admit.

The why of this attempt is due to a number of current conditions extant as of the summer of 1999 relative to psychologists in toto, not just I-O practitioners alone. Specifically, those conditions are:

1. Of the total number of licensed mental health professionals enrolled in the Disaster Mental Health Services effort of the American Red Cross, only 23% are psychologists. My experience is that, both in serving in disasters and in teaching disaster mental health to licensed professionals, I have yet to encounter an APA Division 14 member. This, in spite of a magnanimous Eli Lilly grant to prepare some 10,000 mental health professionals for disaster service over a 5 year period. For 2 years now, the 2-day American Red Cross Mental Health I (ARC MH I) programs have been frequently scheduled over the entire United States and Guam so as to make them easily available in nearby locations at no cost to the volunteer except for their own travel expenses. And, many state boards accept CEU credit for 13 contact hours!
2. APA President Jack Wiggins, in 1992, spearheaded the effort to initiate a new APA Division of Disaster Psychology, but to date we have not recruited the number of applicants required to formally apply.
3. A search of the plethora of offerings at the SIOP 1999 Annual Conference indicates not one session that dealt with prevention of, preparation for, mitigation of, and recover from disasters' impacts on organizations—natural, man-made, accidental, or whatever Y2K might bring.

Yet, there are good reasons for I-O psychologists to have an active interest and participate in disaster mental health services. As consultants to, or employees in, business, government, military, and industry many of you are already involved in related activities including:

- consulting with dysfunctional executives, supervisors, and employees on mental health-related problems: stress management, personal relationships, employee assistance programs, coaching, counseling, and so forth.
- consulting with dysfunctional organizational components and groups, developing boards of directors, team building, fitness programs, TQM, 360-degree feedback programs, and so forth.
- personnel safety programs, prevention of harassment, hate behaviors, work-place violence, providing crisis interventions, conflict resolution, and dispute mediation services.

If you participate in the training, you will see that the 2-day ARC MH I program will, in one way or another, touch on and enhance your working skills involved in almost every one of the preceding activities. But, beyond purely selfish motives, your participation in national, state, or local disaster counseling will give you an opportunity to help disaster victims with what others have given you over your lifetime, in the deepest, most satisfying way possible. Those of you working for corporate organizations would find most of them more than eager to give you paid leave of 12 days—which would be the minimum time required for you to serve as a mental health counselor in such mind-boggling disasters as the Los Angeles earthquake, the Oklahoma bombing or TWA Flight 800.

As a licensed psychologist, your major preparation for service in national disasters is to complete the 2-day American Red Cross Mental Health I program and become listed in the ARC Disaster Services Human Resources System as being willing to volunteer as a mental health worker depending, of course, on your availability at such times as you might be contacted. There is no stigma attached to saying "No" to a call, and it is possible for you to request a time slot to serve in that disaster which is more suited to your current business and personal commitments.

The ancient Greek philosophers described the most basic elements as fire, water, earth, and air. Each year, fires, floods, earthquakes, hurricanes, and tornadoes dispossess thousands upon thousands of individuals of their homes, their material goods, and even their lives. My message to participants in my disaster mental health classes is this:

> *When you are working a disaster, you are at first hand coming to grips with those elements in a way denied to most people in our society. You are feeding your 'primitive' self as you conquer those elements by enabling those affected to move ahead instead of accepting defeat.*

The same sentiment can be applied to man-made disasters resulting from terrorism, ethnic cleansing, and a wide variety of other so-called "accidents."

The American Red Cross says "Help can't wait"; however, you can help! My hope is some of our Division 14 (SIOP) members will respond to this call and soon!

To find out the schedule of ARC Disaster Mental Health I programs and the locations nearest you for the fiscal year 1999–2000, call ARC at (703) 206–8689; then visit your local Red Cross Chapter for application information.

Biography

James H. Morrison is a licensed psychologist whose current focus in on mental health counseling and crisis interventions for disaster victims. He has been involved in counseling for such events as Hurricane Andrew, the Oklahoma Bombing, and TWA Flight 800, among others. He serves frequently as an instructor in the American Red Cross mental health training program for licensed mental health professionals, has contributed to *TIP* on several occasions, and was a co-leader of a Conversation Hour titled "I-O Psychologists and Disaster Service" at the 1994 SIOP Conference. Jim can be reached directly at (913) 339–6670

Practice Network: It May Be a Pretty Big World After All

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University of Missouri–St. Louis

Well, the 1999 SIOP Conference has come and gone once again and summer is around the corner. For many people, summer is the time to travel and see new things. Which brings me to this column: the practice of global I-O psychology (I would use the acronym GIOP, but that is the acronym of our local I-O psychology group! GIP sounds too much like *TIP* and IIOP looks funny, as does IOPG. Anyone have a good acronym here?)

Read any article or book on business, and almost inevitably, you will find a reference to global business. Just for fun, I did a search with HotBot using the phrase "global business" and found 27,430 web sites that contained that expression. The phrase "international business" led to 154,430 web sites. What has really stimulated my interest, however, is that the School of Business Administration at the University of Missouri–St. Louis is developing a new emphasis in International Business, and desiring to be part of this endeavor, I decided to write my column on this topic. With all of this in mind, I contacted a number of practitioners and consultants to talk about global I-O psychology. The four basic questions that I discussed with them were:

1. *What are the hot issues in global I-O psychology today?*
2. *What do you think will be the hot issues in the future?*
3. *Is global I-O psychology really different from domestic I-O psychology?*
4. *What training or experiences should I-O psychologists have in order to be effective global I-O psychologists?*

A summary and synthesis of their answers is provided next.

What Are the Hot Issues in Global I-O Psychology Today?

Probably the most commonly mentioned "hot issue" was the role of culture on I-O psychology practice. Whether the topic was selection, development, or leadership style, a frequent question is whether the culture affects these practices, and if so, how. This key issue plays out in a number of related ways. For example, consider a multinational organization with facilities throughout Europe, Asia, and Africa. This company is interested in creating a cost-effective, valid selection process that can be applied throughout these countries. The challenge for I-O psychologists is complex. First, are there are set of common competencies across countries/cultures? Second, how does one customize a selection system to meet the unique aspects of different countries/cultures? Third, does the selection method (e.g., computer-based tests, simulation exercises, and structured interviews) need to differ across countries/cultures? Fourth, do

we need different norms for different countries/cultures? In thinking about these issues, I wondered whether the same test might demonstrate a positive correlation with success in one culture and a negative correlation with success in a different culture. Likewise, in a training context, could it be that someone trained in one leadership style for a specific culture might need to be "untrained" to succeed in a different culture? Or, do competencies/methods generalize across cultures (I see a whole new set of studies for meta-analysts here!) Such questions lead to fascinating practice and research questions.

From my conversations, it appears as though I-O psychologists are at the very early stages of understanding and addressing the above issue, and the preliminary answers I received were varied. One respondent, for example, stated that he had been quite successful in developing and using structured interviews in another part of the world (a country in Micronesia). Another respondent provided some examples as to how feedback over the telephone would be considered inappropriate in some countries (e.g., France), but perfectly acceptable in other countries (e.g., United Kingdom). This respondent also raised concerns with such techniques as the Leaderless Group Discussion (LGD) in certain cultures, such as Asia. Another respondent reported that after a bonus plan was introduced, workers in Mexico actually did less work, because their pay went up with the new plan. Most of my respondents seemed to feel that the country/culture could make a big difference in our I-O psychology practices, but little was known at this time as to what those differences are and how to address them.

Related to this first issue, some of my respondents raised concerns that our theories and practices are largely based on U.S. assumptions about work, life, and psychology. As one respondent phrased it, "goldfish will never discover water," and argued that we need to carefully examine our theories and practices to determine not only the explicit, but implicit, assumptions as well. For example, one respondent mentioned that common premises of U.S. I-O psychology include the centrality of work, the importance of EEOC issues, and the belief in the individual. Another respondent pointed out that in some cultures, the very idea of people being rated and measured would be alien (interestingly, a small business owner I am friends with made a similar comment to me regarding the head of a nonprofit organization that he was asked to evaluate). One respondent indicated that some companies had go so far as to hire anthropologists to help human resource staff when they entered a new country. So, is it the case (as one respondent argued) that there are more similarities than there are differences between cultures, or is it that we simply can't see our noses because we are too close to them to perceive the many differences that we do have? My guess is that only time will tell.

A second interesting "hot" issue mentioned by several respondents was the role of cultural adaptability. This relatively new construct was mentioned as a potentially important factor for the success of managers and professionals in a

global context (although not explicitly mentioned, I also wondered whether cultural adaptability might not be an important predictor of I-O psychologists' success in a global assignment!). Relating back to the previous "hot issue," some respondents described the need to develop measures of this construct and to determine what role, if any, it plays in determining global success. In other words, are some managers effective regardless of the culture/country they are working in or do we need to match managerial style with culture/country?

Although space precludes further discussion, some other current "hot issues" raised included family adaptation to a global assignment, employee motivation in countries with changing economies, and repatriation, as employees return from global assignments. What I found most interesting about current "hot" issues was how little we seem to really know about cultural differences as they affect I-O practices!

What Do You Think Will Be the Hot Issues in the Future?

In my opinion, the most interesting response to this question was enabling companies from different parts of the world to successfully merge or develop alliances. For example, I-O psychologists in the future may need to help select the employees from each company that will work together, train employees to work successfully with people from a different culture, help in team-building, and lead organizational transformation for the new company. Daimler-Chrysler was given as an example of such a situation. This issue, I believe, also provides an interesting example of a case where a combination of "I" activities would be accompanied by "O" activities in a new and challenging way.

Another very interesting response was that as third-world countries develop and their economies become highly productive and more Western-like, their citizens will begin to raise questions about quality of life and work-family conflict. These possibilities will raise interesting challenges for I-O psychologists as well.

Finally, a point that two respondents raised independently was that cultural differences were most significant at *lower* levels of the organization. Because many top or even middle level managers and professionals in other countries have received either Western or Western-like training, they tend to be more familiar and comfortable with U.S. approaches. Other employees, however, such as production and maintenance personnel, would be less likely to have such exposure. Thus, I-O psychologists with exposure to high level managers and professionals from other cultural backgrounds may fail to recognize that more profound cultural differences exist at lower levels of the organizations.

Is Global I-O Psychology Really Different From Domestic I-O Psychology?

I received some really interesting answers here. On the one hand, I heard some respondents indicate that the *company's* culture was more important than the *country's* culture; likewise, one respondent joked that it was more difficult

to adjust to different areas of the U.S. than to adjust to different countries in the world. Some respondents emphasized that our basic tools and techniques were applicable, but the successful I-O psychologist needed to remain flexible in how he or she used them—the key was to remain open and alert to cultural differences. On the other hand, one respondent indicated that employees from another culture may appear to accept or understand an I-O practice or approach, when they actually disagree or don't even understand the issue at hand. Again, this would suggest that we as I-O psychologists must become far more careful in how we approach cultures other than our own.

Another respondent addressed this question from a different perspective—What is the objective of the organization? At the "big picture" level, the differences might not be so large from culture to culture (e.g., an HRM planning process); at a more "micro" level, such as individual assessment, the differences might be larger. Similarly, if the objective was to make a division more "Western," the differences might not be so vast.

Finally, and I will address this in more detail below, one might ask what "global I-O psychology" really means. As one respondent put it, because countries and cultures differ from one another, becoming proficient in this area means understanding how I-O psychology applies on a country-by-country basis. Thus, we need to be careful in how we learn about global issues. The term "global I-O psychologist" may not make much sense at all, which is a good point for us to move to the last question.

What Training or Experiences Should I-O Psychologists Receive in Order To Be Effective Global I-O Psychologists?

Before you register for some courses in anthropology, here are some alternatives to consider. One respondent said that international travel is the best way to gain helpful training. Another respondent strongly recommended reading cross-cultural research and even journals from other countries. Another respondent recommended living in another country for 6 months, and if possible, working in that country. As that respondent noted, this kind of experience helps us learn what types of questions we need to ask ourselves. (As a quick example from my own overseas experience, I read a traveler's guide beforehand which said if you see a lot of armed soldiers around this country, don't worry. It means there is *not* a war going on; otherwise, they would all be on the front!) Another piece of advice was to read popular books on different cultures and especially, read the local newspapers. One respondent observed that an understanding of political issues is very important in understanding how I-O practices will fit; a different respondent noted that in some countries, our basic practices might be viewed as a manifestation of U.S. imperialism! It was also recommended that learning a different language would help.

One more noteworthy comment offered (and this should be reinforcement for staying in touch with research) was that to be successful in a global capac-

ity, one should be familiar with global I-O psychology literature. According to this respondent, it is not uncommon to be asked by managers and executives whether a particular tool or technique has been researched in another country or culture.

Returning to the point raised above concerning the nature of global understanding, it seems that perhaps there are two competencies in being globally competent. First, there may be a general competency that I would call "global awareness," whereby the person has a general sensitivity to and understanding of the ways in which cultures may differ. Second, there may be specific details of the culture or country, such as the political system and the importance of work, that one would need to know to be completely successful working as an I-O psychologist in that country. Developing these two competencies may require different strategies.

Conclusions

After all of my conversations, I am convinced that global I-O psychology is an important topic, with many opportunities for practice and research. I would be interested in receiving more examples as to how I-O tools and practices might differ from country to country. I am also especially interested in hearing from all of you about various "blunders" you have committed or heard that I-O psychologists have made in applying our tools and practices in different cultures/countries. If I get enough examples, I will print a follow-up to this column at a later date. Finally, I am preparing to attend a faculty development seminar on international human resource management, sponsored by the Center for International Business Education and Research at the University of Colorado at Denver. I hope you all have a great summer!

As always, feel free to contact me with reactions to this column. Topics you would like to see covered in the future? Please e-mail me at mharris@umsl.edu, call (314–516–6280), fax (314–516–6420), or snail-mail me, Michael Harris, School of Business Administration, University of Missouri-St. Louis, St. Louis, MO 63121. I look forward to hearing from you!

I would like to thank the following individuals for their help in writing this column: **Maxine Dalton**, Center for Creative Leadership; **Joe Gier**, Assessment Solutions, Inc.; Belinda Hyde, Caltex; Michael Leahman, DDI; Matthew Paese, DDI; **David Smith**, Anheuser-Busch Companies; **Bettye Thompson**, Caltex.

TIP-TOPics for Students

Kim Hoffman and Suzanne Vu
University of South Florida

HELLO! We are certainly ecstatic to be talking to you because if you are reading this, it means we were actually chosen. Maybe we should start from the beginning.... "We" are **Kim Hoffman** and Suzanne Vu, first year (soon to be second) students at the University of South Florida AND your new TIP-TOPics columnists. You may be thinking—"weren't the last columnists from USF?" Yes, they were, but there really isn't a conspiracy, and USF is not plotting to take over the I-O world (that's our story, and we're sticking to it). Lori Foster and Dawn Riddle, the former columnists, did a fantastic job and we can only hope to follow in their footsteps. Because they are classmates, we hope to use this to our (and your) advantage in maintaining both the quality of the column and the relevance of the topics to your interests. We also wish them the best of luck as they both near the coveted Ph.D. degree and a hearty thank you for their time and effort in making graduate student life a little more enjoyable for all of us.

Before we dazzle you with fascinating and intriguing facts and information, we cannot forget the "formal" introductions. As an undergraduate at Eckerd College, St. Petersburg, Florida, I, Kim, majored in management and psychology (my first love), as well as volleyball and anything else outdoors (just kidding). When I realized there was a field in psychology in which I could use both these backgrounds, I was hooked, and knew I-O was for me. Before I dedicated myself to graduate school, I took 3 years off to join the "real world" and shake off the burnout. But now I am following my dreams, like so many of you, and am enjoying every minute of graduate school (OK, maybe not EVERY minute). I am, however, an enthusiastic and ambitious person and hope to use those qualities to bring you a column that you cannot wait to read.

Well, now it's my turn to introduce myself. I'm Suzanne. I guess you can call me a native Floridian. I am originally from Gainesville, Florida. I think I was brainwashed as a child because I ended up staying in town to go to the University of Florida (GO GATORS!) for my undergraduate degree. I majored in psychology while minoring in business (or was that football games?). I fell into I-O just like Kim when I discovered a field that actually combined my two main interests. Unlike my colleague, I was too scared to venture out into the big, bad world of work (I figured I had plenty of time to do that later) and remained in the safe confines of graduate school.

In summary, we are two young, energetic students who want to share our thoughts and experiences with you. During our term as columnists, we hope to help make your graduate school experience live up to all the cliches you hear—like, this should be the best time in your life, (didn't "they" say the same thing about undergrad?). And, because we do not have all the answers, we are curious about your thoughts and experiences about this adventure called grad school. In other words, this column is not about us; it's about YOU.

Our "mission" for the next 2 years is to represent a wide variety of perspectives in answering your questions and concerns, which means contacting and chatting with students, faculty and practitioners across the country (or by you contacting us). Perhaps through this "forum," all of us can learn from others' experiences to make grad school a positive time (and yes, even a happy one) for each of us. So, that is the game plan—we hope you take this journey to explore TIP-TOPics with us.

With the introductions out of the way, let's talk about the format of future columns. As we polled classmates and ourselves, we found four main topics that permeate the thoughts of most I-O students. These are the topics that will serve as segments for each issue. However, all four segments may not appear in every issue. Due to its popularity, one of the segments remains unchanged from the previous TIP-TOPics. The other three are either entirely original or modified versions of previous segments. Without further adieu, the TIP TOPics segments are: *Meeting of the Minds—Scientist and Practitioner, TIPs for Balancing Life and Graduate School, TrIP Through Time,* and *Making the Right Connections.* Immediately following is a brief summary and direction for each as well as a few substantive comments. We hope you enjoy the rest of the column, and if you are inspired or incensed (or just plain have a comment or two) on any of these topics, please feel free to contact us.

Meeting of the Minds—Scientist and Practitioner: Does Graduate Training Provide the KSAOs Needed for Practice?

Most I-O graduate programs adhere to the scientist-practitioner model, but what does this really mean? Chances are you have not heard much about this model since the application process. However, the debate between academic versus applied careers in I-O rages on—are these issues the same? In this segment, we will explore the nature and meaning of the scientist-practitioner model and how it applies to professional life (whether applied or academic). Inherently, there are conflicts between the activities and goals of the scientist and practitioner. This segment will investigate those conflicts as well as explore the commonalties that unite the two roles.

Although SIOP advocates the scientist-practitioner model, there seems to be a growing dichotomy between the two. Perhaps because we are not yet indoctrinated into "the system," we thought there should be some way that we could adhere to this model and fulfill both scientist and practitioner roles in our professional pursuits. As the next generation of academicians and practitioners, we urge students to critically examine this issue and participate in the discussion of the duties and skills involved in each role and how to reconcile any inherent conflict. Following this logic, the purpose of this segment is to illustrate the path where these seemingly conflicting roles converge.

Each installment will have a theme and will feature the ideas and comments of faculty, practitioners, and graduate students on determining the meaning and nature of the scientist-practitioner model. The theme for this segment is: *"Does graduate training provide the KSAOs needed for practice?"*

In reaction to a recent uprising among the applied students at USF, the faculty called a meeting to discuss the issue of graduate training for applied careers. The ensuing discussion served as the inspiration for this segment and comments from that discussion are included as well as those from individual conversations with faculty members[1] and **Joyce Hogan** of Hogan Assessment Systems.[2] Three main ideas are apparent from these discussions. According to Drs. Paul Spector and **Wally Borman** "applied I-O is built on basic principles" and "the best practitioners use theory and research to guide practice." Graduate training is not preparation for a specific job but rather for development of basic skills and abilities that will serve as the foundation for either an academic or applied career. And, each firm or organization is unique (i.e., has its own way of performing functions) and therefore often searches for the candidate who has general training in broad areas that can be adapted to specific situations.

Basic Principles and Use of Theory and Research to Guide Practice

Understanding how to perform a task (i.e., job analysis) is important but understanding why you perform that task is crucial. Knowledge of basic principles provides the ability to develop your own procedures, when necessary, and to adapt to situations not covered in the textbook. Further, applied careers involve solving practical problems, which require the ability to engage in problem analysis. This ability is learned through the research process where you investigate a problem or question, develop a theory of causes and solutions, test your solution and evaluate the results. Lastly, a broad knowledge of the I-O literature and methodology is essential whether you choose an applied or academic career. Methodology is the same whether utilized in applied or academic settings. As Dr. Borman points out, many new Ph.D.s start in a research position in consulting firms.

Graduate Training Is Meant to Develop Basic Abilities Not Specific Skills

It is practically impossible to train specifically for all the situations and variables you will encounter as a practitioner. Instead, Dr. Spector emphasizes the "major objective of (graduate) education is to help build your mental skills." Mental skills such as critical thinking, analytical reasoning, problem-solving, integration of ideas, and creativity, will last a lifetime and are applicable far beyond your professional role. Specific skills are volatile and differ from job to job. Therefore, the student who knows how to think creatively and analytically will be marketable for the rest of his/her life while the student who only knows how PDI (for example) conducts a job analysis will be obsolete when technology or procedures change. Graduate education will teach you how to ask (the right) questions and apply theories to problems, which is a mental skill that applied firms value highly.

Each Firm/Organization Is Unique

Each firm has different procedures but these are secondary to the basic skills mentioned above. Besides, you will be trained, on-the-job, in these specific procedures. In general, firms recruit based on problem-solving ability, knowledge of I-O topics and methodology, research skills and flexibility (ability to adapt to new situations). These are all skills or abilities that are developed through coursework, research, and applied experiences in graduate school. Dr. Hogan also emphasizes the ability to communicate with managers/executives who are not well versed in theories or methodology. Specifically, you must be able to justify what you have done, why you have done it that way, and the conclusions you have drawn to clients who do not have the knowledge or understanding of the field that you have. One way to sharpen this skill is through teaching, which is usually required during training. Last, each client organization has a unique problem or situation, which requires the practitioner to "tweak" his/her knowledge to fit the constraints of the assignment. And, if you know why a tool is used and have the appropriate mental skills, you will be successful.

In answer to the question: Does graduate training provide the KSAOs needed for practice? YES, graduate school can and does prepare you for an applied career even though you may not receive specific training in how to write an in-basket. Instead, you will develop mental skills and acquire "tools" such as critical thinking and reasoning or logical analysis skills that form the foundation of both academic and applied careers. Through the acquisition of general I-O knowledge and methodology, the ability to adapt and be flexible and the development of mental and communication skills, graduate training provides the foundation to be successful whatever career path you choose.

TIPs for Balancing Life and Graduate School

Balancing life and graduate school seems to be central to the concerns of all graduate students and so, will remain a staple of this column. As a recap, the purpose of this particular segment is to share practical tips on maneuvering through the obstacles of graduate school, while still enjoying some sanity. Due to the fact that we, the columnists, have not yet mastered this balance, we will

[1] A big thank you goes to the faculty at USF for "setting us straight" about training for applied careers and also for their inspirational thoughts and comments on this subject. Drs. Paul Spector and Wally Borman also deserve a round of applause for their insightful and quotable remarks. Thank you!

[2] During the most recent colloquium at USF, we had the chance to converse with Dr. Hogan about her thoughts on training for applied careers. Her comments seemed particularly telling since she is an active practitioner who runs Hogan Assessment Systems. We appreciate her willingness to talk with us and her candid advice. Thank you!

rely on comments and contributions from our colleagues—and a bit of research (you cannot escape it). We invite and welcome you to pass along your personal secrets which may find their way onto the pages of the next *TIP* issue.

In the last segment, the columnists encouraged you to find an enjoyable activity, not related to graduate school, and engage in it as much as possible to preserve this delicate balance. As a prospective student, I solicited advice on surviving the first year. Although I nearly drowned in a sea of well-intentioned comments, the one that made the largest impact echoed this theme—*make the time* (because we all know we have none to spare) to do something you enjoy which has nothing to do with your studies. The current tip is an extension of this idea. Actively recruit (and maintain) friends who have no connections to the psychological community. In other words converse on a regular basis with people who do not know (nor care) what a job analysis is and who cannot distinguish between a work group and a team.

Psychologists often discuss perspective and perceptions, but we risk losing this when we only associate with similar others. Certainly, you may have friends in other programs but they are still "psychologists" and therefore, think of the world in nearly the same way you do. In order to stay grounded and sharp, we need to abandon (at least for short periods of time) the world of research and critical thought to interact with "normal" people. For those of you who have spouses or significant others (not of the psychology breed), do you ever find yourself in a quandary as to what mechanisms to attribute their latest offensive behavior? If you do, this advice is for you. As my non-psychology friends remind me, it is not always necessary to think critically about the why of behavior and attitudes. It may be easier to relate to people when you are not constantly analyzing them (I know you have been accused of this before!).

Establishing friendships with people outside the field can keep you sane and prevent your perspective from becoming lopsided. In other words, compartmentalize your life. School belongs at school while life is waiting for you to enjoy. This is a shocker but there is more to life than graduate school—take advantage! Create boundaries for yourself and resist the urge to allow classes or research to cross those boundaries. So, reward yourself on a Friday night; find those friends who do not speak your (psychological) language and experience life beyond grad school. Good luck!

TrIP Through Time

This section takes you on the exciting journey through graduate school. We'll be stopping at common places such as surviving the first year, picking a thesis topic, defending your thesis, studying for and taking COMPS, working on a dissertation, or submitting a paper for publication. So, depending on how far YOU are in your journey (some of you are taking the scenic route, but that's OK!), you can anticipate, relate or happily reminisce about these experiences. Since we are both relatively new to this adventure, we must rely on our mentors, our big brothers and sisters, to share those pearls of wisdom we have yet to learn. Hopefully, by sharing these TrIPs, we can avoid those potholes, traffic jams or rough terrain that may slow our progress toward the coveted Ph.D. (or Master's) degree. Now that we have our itinerary down, we can start our trip.

Starting at the Beginning

The first year of graduate school can be exciting, yet daunting. For most of us, our trip started by moving to a brand new city. This meant packing all your precious belongings into a Ryder truck and driving through several states to reach the lucky school that was smart enough to accept you. After settling into your new place, you no doubt attended the mandatory orientation, which introduced you to the school, the department and its faculty members. This is probably when you asked yourself, "What classes do I take?" We suggest you bite the bullet and if your program requires them, get your core classes out of the way first thing. You ask, "Why do we have to take classes such as cognitive, social, history and systems, and personality? Why can't we just get down to the nitty-gritty of job analysis, selection, and assessment centers?" Well, we are psychologists first before we are specialists in the field of I-O. Therefore, we need to build a strong foundation in the general areas before we learn about our specialization. Not to mention that most theories in I-O are derived from concepts which originated from these topics. Besides, we need cocktail material to daze and confuse our non-psychology acquaintances.

Classes are also a great way to acquaint yourself with the faculty members. One of the main criteria for choosing a graduate school was matching your research interests with those of the faculty. Make yourself known—knock on faculty doors and talk about your interests. USF offers a one-credit course, Research in I-O Psychology, which is designed to give first-year students exposure to the research interests of faculty members. During each class, a different faculty member (sometimes from other departments) describes his/her current research projects as well as any general research interests. Even though it's only your first year, it's important to start thinking about ideas for your master's thesis. DON'T WAIT! Some students allow intimidation and anticipation to cripple their motivation and energy. The result—4 years pass and no thesis! Remember the master's is a practice run for the dissertation, which means you do not have to be published the first time out of the gates (but, it would be nice). Don't be afraid to stumble or make mistakes. Take a deep breath, relax, and let those creative juices flow.

With all these new responsibilities, time management and effective study skills become even more critical for success. The resource or counseling center on-campus may offer classes in time and stress management. This may be worth your time, so check it out. Between going to classes, meeting with professors, reading articles and studying for tests (oh yeah, and having a life...see TIPs for Balancing Life and Graduate School), the first year of graduate school

can be intimidating and overwhelming. Have faith—you WILL survive. Remember that this is only the beginning of an adventure that will lead you to the accomplishment of your dreams. Our next stop on this TrIP…working toward and successfully defending a master's thesis.

Making the Right Connections

Who's who in the field of I-O psychology? What's everyone else doing? How can I get in touch with other I-O scholars? Even though we would all like to believe that success depends solely on our knowledge and skills, sometimes opportunities emerge by being in the right place at the right time or through connections with the "right" people. The "right" people could be almost anybody down the road, (in your graduate or professional career), because sometimes we just don't know where our TrIP (stay tuned to the previous segment to know what I mean) will take us next. Therefore, the art of networking can play a significant role in your I-O career. In this segment, we will offer ideas and suggestions to establish a solid network that will connect you to students, faculty and practitioners. In addition, you can look forward to learning about popular I-O Internet sites, Internet newsgroups, upcoming conferences and other vehicles for networking. In addition to networking opportunities, these agencies provide a forum for exchanging ideas, answering questions and locating job opportunities.

So where do YOU start? Start with the excellent resources surrounding you. Faculty members and fellow I-O graduate students can assist you in several areas such as building ideas for your thesis and dissertation or finding internships. However, reach beyond the walls of your academic institution to professors and graduate students at other universities. For instance, you might have read a stimulating article related to your interests. Through the beauty of technological advancement, you can contact the authors directly via email (snail mail still works too) and inquire about their research or engage them in a discourse (it's an ego boost to know someone finds your work fascinating, even when you have a Ph.D.).

Many schools sponsor colloquiums designed to bring guest speakers (often influential and famous researchers) to your doorstep. Use the informal lunch session or reception to pick his/her brains and to learn how to rub elbows with these people. Also, now that you are a serious graduate student, you should consider becoming a member of APA (or APS) and SIOP. Moreover, as student members, you will receive (affordable—even on a grad school stipend) discounts on subscriptions to journals. Both organizations also publish newsletters, which provide information about events and current issues. (Actually we heard about this great newsletter that SIOP publishes, but the name escapes us…of course, you obviously already know that). A wealth of networking information at your fingertips!

The moral of the story is that networking is a necessary and beneficial part of your career-practice now. And, you never know who may be the "right" connection for you, so build that network with as many fellow students, faculty

members and practitioners as possible. Hey, you never know, YOU may be the right connection for someone else and wouldn't that make your day?!

We had our first opportunity to make the right connections during the SIOP conference in Atlanta this year. Thanks to the foresight of **Mike Fetzer**, a student at the University of Southern Mississippi, graduate students from around the country had the opportunity to meet and get to know each other (after a couple fish bowls and gator crowns) at Lulu's Bait Shack. There seemed to be plenty of "networking" happening there. Fortunately, we had the opportunity to meet a few of you (we have the pictures to prove it!) and hope to meet more of you next year.

That's all we wrote…this time. We are delighted to be the new columnists and pledge 110% to making TIP-TOPics work for you![1] And, just in case you missed our pleas (we mean, invitations) for your comments, concerns, and questions about graduate student life, please feel free to contact us via the means below.

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[1] We want to thank all the faculty and graduate students at USF for their support and encouragement of our "bid" to be able to write this column. You are truly appreciated!

The Real World: Generation X or Generation Gap?

Janine Waclawski
W. Warner Burke Associates, Inc.

The denunciation of the young is a necessary part of the hygiene of older people, and greatly assists the circulation of the blood.
Logan Pearsall Smith

What is youth except a man or a woman before it is ready or fit to be seen?
Evelyn Waugh

It is one of the capital tragedies of youth—and youth is the time of tragedy—that the young are thrown mainly with adults they do not quite respect.
H L. Mencken

People try to put us down (talkin'bout my generation)
Just because we get around (talkin'bout my generation)
Things they do look awful cold (talkin'bout my generation)
Hope I die before I get old (talkin'bout my generation)
The Who

Before I start off on my next semi-coherent rant I just want to take a brief moment to thank all the people who came up to me at the annual SIOP conference and gave me positive feedback. It was really nice to hear that people enjoy reading the column and that some actually (a) get my lame jokes, and (b) think they are funny! Of course, the downside of all of this is that I now feel that I have to live up to your expectations. Before, I thought no one was paying attention, but now that I know some people are reading this thing I will have to make sure I do a good job. Talk about performance anxiety. But seriously, let me just say that I am glad that people have found something (no matter how small) redeeming in my columns.

However, life is not always replete with positive feedback and/or positive anything. In fact, sometimes I feel like it's so hard to get a break in this world of ours. For example, lately I have often wondered what is the perfect age to be in our age-obsessed society. As a kid in elementary and all through high school, I was one of those people who couldn't wait to be a "grown-up." I used to have strange and silly thoughts like, one day when I'm a grown up, people will respect me. Or still worse, one day when I'm a grown-up, I can make my own life decisions. And most importantly, one day when I'm a grown-up I can (a) eat my dessert first and (b) stop wearing those dorky bell-bottoms my mother keeps

buying me! Well, now that I am a "grown up" I have awakened to a startling reality that flies in the face of all my youthful illusions and aspirations. First, as that wise old philosopher Rodney Dangerfield once said, "I don't get no respect." Second, making big life decisions is tough (and usually coincides with paying bills and income taxes)! Third, because of my new low-fat change of life (i.e., diet), I can't even eat dessert any more let alone have it before my dinner (which usually consists of some hideous, extruded, fat-free concoction). And, fourth, bell-bottoms are back in style with a vengeance! Such is life. However, with that all said, being a high school kid these days is no picnic either. Drugs, AIDS, guns, and teen suicide make an average day at your local high school as dangerous as a one way ticket to Kosovo. And that, my friends, is truly no laughing matter.

So, I guess there is no perfect age except maybe the brief time between birth and age two because—barring hypnosis—you can't remember it and you don't even know the meaning of the word diet. More seriously though, there is an issue here (I promise), which is the way we deal with age and aging in our society. On the one hand, in certain ways we glorify and, might I add, deify youth in this culture to the extreme. I mean, can anyone honestly deny that the sex-charged Calvin Klein ads which show half-naked nubile youngsters in lewd situations are frighteningly close to kiddy porn? In addition, if you still don't believe that we are youth obsessed, then how come when a woman looks a day over 16 she has to get herself to the nearest plastic surgeon for a nip and tuck. Men on the other hand need to begin a regimen of birth-defect causing hair growth remedies as soon as they begin to see the firsts signs of follicular fallout in their bathroom sink. More disturbingly, according to films like *Logan's Run* and the *Strawberry Solution*, we aren't supposed to live beyond the ripe old age of 30 anyway. Call me a renegade runner but all I can say is that I was overdue for Carousel years ago! According to American pop culture, we are all supposed to die young and leave a good-looking corpse like James Dean, River Phoenix, Jim Morrison, and countless others (not including Elvis who had taken a few too many pills and eaten way too many doughnuts to make this short list).

On the other hand, demographically speaking, we are in reality an aging society. Groups like the AARP have never been so powerful. Products like Geritol have never been so successful. The number of retirees shopping on senior day has never been so plentiful. And I still often get treated like a wet-behind-the-ears fresh young whippersnapper by potential clients who are surprised that anyone under 50 (a) has half a brain and (b) is gainfully employed in a position that requires more responsibility than flipping a hamburger.

This to me represents a paradox. We are all obsessed with being young and beautiful, but we are at the same time individually and societally aging. This is unfortunate because the average person (given the average US life expectancy of about 75 years) will spend a great deal more of his or her life being older (over 30) rather than younger (under 30). It seems to me that this paradox may

have some odd implications for us collectively, one of which may be our obsession with categorizing (also known as labeling), dehumanizing, and chastising younger members of society. For me this paradox is typified by the juxtaposition of the following two expressions both of which seem to be pretty popular these days. One is the old expression of the 60s and 70s—"Never trust anyone over 30." The new and improved version I have heard recently is "never trust anyone under 30." All I have to say is, why can't we all just get along?!

So Many People to Conject Upon and Add to Your Collection

At this point you may be wondering why the title of this column has Generation X in it and more pointedly what in blue blazes does Gen X have to do with I-O psychology (aside from the fact that both are abbreviations of much longer terms)? Well, there are several reasons I have picked this topic. First, the whole subject of Generation X has received a good deal of media attention. In fact, I think I would give it a 9 out of 10 on Janine's pop culture hype-o-meter. (In case you were wondering—a 10 would be Y2K mania—my next column.) A case in point, it's no secret that Gen Xer's have been the focus of movies such as *Slackers* and *Reality Bites* and a myriad of books such as *Generation X* (Coupland, 1991), *13thGen: Abort, Retry, Ignore, Fail?* (Howe & Strauss, 1993), and *Managing Generation X* (Tulgan, 1995). In fact, given the prevalence of the topic, I have been meaning to get to it for quite some time now. Second, I have always had a sneaking suspicion that a good deal of what has been said and/or written on this topic is quite frankly far less than intelligent. Third, the label (based on my understanding of it) was originally created for marketing purposes and has now taken on a life of its own. I can't tell you how many times I have come across some consulting outfit trying to sell information on dealing with Gen X workers or motivating Gen X employees. Considering the relatively small number of individuals who belong to the Gen X category (approximately 40 million or 16% of the US population) it is amazing to me how much attention this topic receives. Fourth, members of Generation X (those born between 1961 and 1980) are as young as 16 and as old as 38 and constitute the most ethnically, racially, and culturally diverse group that this nation has ever seen (Howe & Strauss 1993). This diversity in age and ethnicity alone makes it hard for me to believe that this categorization is an accurate one. What can I say, I believe that individual differences are more important, predictive, explanatory and accurate in assessing one's motivation for (or against) hard work. Finally, this label seems a tad too pejorative for my liking. Specifically, most things that start with "x" are not positives (e.g., ex-wife, ex-employee, ex-friend, ex post facto). More importantly, you can call me an egocentric curmudgeon, but I for one do not like to think of myself as anything other than a unique (albeit somewhat annoying) and singular person. But alas, perhaps I should face the reality that I truly am just like everyone else born be-

tween 1961 and 1980—a lazy, good-for-nothing slacker, among other things. Yeah, and perhaps my horoscope is accurate, too!

Us and Them

Speaking of accuracy, in a "Letter to the Rising Generation," Cornelia Comer disparagingly described people in their 20s in the following ways:

> *Culte du moi attitude*, growing up painfully commercialized even in their school days, they cannot spell, flimsy, shallow, amusement-seeking creatures, their English is slipshod and commonplace, veteran teachers are saying that never in their experience were young people so thirstily avid of pleasure as now—so selfish, and so hard!

In response, a 25 year-old named Randy Bourne wrote that the behaviors of twentysomethings are:

> A logical reaction to the "helplessness" of parents and other adults, The modern child from the age of ten is almost his/her own boss, that the complexity of the world we face only makes more necessary our bracing up for the fray, we have to work this problem out all alone. I doubt if any generation was ever thrown quite so completely on its own resources as ours is. We have a very real feeling of coming straight up against a wall of diminishing opportunity. I do not see how it can be denied that practical opportunity is less for this generation than it has been for those preceding it.

Doesn't this sound like a typical name-calling, generalization-slinging fight between baby boomers and Xers? Well, fooled ya—it isn't! The Comer-Bourne letters were published over 80 years ago, in 1911! It just goes to show that everything old is truly new again.

So, given the combination of the factors above, it is inevitable that this issue would one day be the focus of one of my *TIP* rantings. In doing some research (vis-à-vis pop literature on the subject) I have confirmed my initial beliefs. It seems that like many things these days, Generation X is more hype than reality. Of course this is just my opinion, but since this is my column (for the time being anyway) I felt this topic was worthy of some attention. However, before I start in on this I want to state my point of view as clearly and unambiguously as possible. I don't believe in Generation X. I think all the current brouhaha about the subject is nothing more than a glorified attempt to widen the generation gap that always exists between the old and the young. I may be egregiously wrong here but it seems to me that this is just an excuse to label young people as lazy and further polarize baby boomers and baby busters in the work place and in society as whole.

He Was Legally Acquitted but Karmically Convicted

If anyone out there has seen *The Zero Effect* (an odd yet sardonically funny film starring Bill Pullman and Ben Stiller) this phrase may ring a bell. The movie is about a super sleuth, Darryl Zero—the world's greatest detective—and his sidekick lawyer. In the film, Zero, the protagonist, decides to chronicle his empirical method for solving crimes. In doing so he states that all good detective work depends on the "two obs." The obs being observation and objectivity. He states that trying to get to the bottom of a problem without either one will ultimately lead to failure. So, what does Bill Pullman have to do with motivating twenty and thirtysomethings? Nothing, really. However, I do agree with Darryl Zero that the two obs are the essentials of good empiricism. More specific to the issue at hand, labeling a generation's members slackers and calling it X or the "lost generation" seems to indicate that the observers of this phenomenon are coming up a bit short on the second ob (namely objectivity)! Yes, Mr. Zero has a point and I think he would make a darn good I-O psychologist. Empiricism without objectivity is like a path analysis without beta weights or a test of significance without any degrees of freedom—it just isn't right!

This of course leads me to another theory of empiricism, which by the way is ever so slightly more credible: B = f (P x E). This roughly translates to "behavior is a function of personality and environment" (if I remember my Psych 101 correctly). In short, what I am trying to say in a very circuitous way is that there is a lot more to understanding and describing the human experience than one's birthdate. To forget the impact of genetic, dispositional and environmental factors such as SES, ethnicity, gender, life experiences, parental values, and so forth, and to simply focus on DOB would be giving psychology short shrift once again. While there may be age-related similarities among members of the same generational cohort, there are certainly differences as well.

Don't Take My Word on It: The Latest Wisdom (?) on Retaining and Training Gen X

Well, dear reader, in searching for intelligent signs of life on our planet (with respect to Gen X only) I came up with the following wisdom on how to retain and manage these special people. I am sure that you can guess my appraisal of the value of this synopsis from my tone thus far. Needless to say, I am underwhelmed! Further, I dare you to read through the following list of likes and dislikes (which might I add comes with absolutely no references whatsoever) and tell me that these do not apply equally to workers in all generations!

Excerpted from *Training & Development* magazine "Taking Care and Feeding Generation X" by Shari Caudron (1997):

Gen X Likes:

- Honesty—they don't like being lied to

- Feedback—they want it about their performance
- A lot of visuals—they like to see pictures
- Speaking their language—they don't like corporate jargon
- Ongoing development—they want continuous development
- Fun—self-explanatory (I think)

Gen X Dislikes:

- Hearing about the past—they don't want to hear your old, boring war stories
- Inflexibility—they want to control their own schedule
- Being over-managed and over-watched—they don't like being micro-managed
- Disparaging comments—putting down their tastes and styles
- Feeling Disrespected—they don't like having their time wasted
- Focusing on techniques—they want to focus on results
- Being called Xers—they don't want to be labeled slackers

I don't mean to be overly critical of the piece, but I don't think that there are any employees out there who would count (a) feeling disrespected, (b) being micro-managed and (c) being labeled among their likes! On the flip side, who would dislike honesty and fun? Call me a cynical skeptic or a skeptical cynic, but this just doesn't wash with me.

Generations: Get a Haircut and Get a McJob

According to an article in *American Demographics* magazine (Russell & Mitchell, 1995), a generation can be described or measured in two ways: (a) within a family or (b) by peer group. Within a particular family generations are "represented by each successive step in the descent from a common ancestor." Within a peer group a generation is made up people in the same age group or cohort (e.g., twentysomethings, thirtysomethings, seniors). The authors state that while there is no generally accepted formula for setting the boundaries of age-defined generations, a consensus has emerged for several groups—most notably, baby boomers (the group born between 1946 and 1964).

The authors go on to demonstrate some of the contradictory or opposing views people have with respect to their own "generational identity." They state that "each generation has a core of people who strongly identify with it. Beyond that core, the degree of personal identification tapers off." They also go on to list a few other interesting and conflicting points with respect to generations:

- According to a survey conducted by Roper Starch Worldwide of New York City, only about one-third of Americans consider themselves members of a particular generation, which conversely means that about two-thirds do not!
- People who actually believe they belong to a generation don't always agree on what to call themselves. For example, people aged 30 to 44 are most likely to consider themselves baby boomers (39%). However, those aged 18 to 29 (6%) and those aged 45 to 59 (29%) also consider themselves boomers.
- The 30–to–44 age group also includes people who consider themselves of the 1960s and 1970s generations (12%), who think of themselves as yuppies (5%), and still others at the opposite end of the socio-political spectrum who consider themselves hippies (3%).
- Younger adults are "offended by the suggestion that they belong to any generation." Among those aged 18 to 29 who do feel generational identity, Generation X was chosen by only 10%. The majority (47%) came up with so many different labels that Roper condensed them into an "other" category. A smaller group (17%) said they didn't know what to call themselves.
- Finally, and this is my own personal favorite. In 1993, of people aged 60 and older, 1% thought of themselves as belonging to the "middle-aged/midlife" generation, while strangely enough 4% of those aged 45 to 59 considered themselves "senior citizens/retirees."

Some pretty interesting contradictions, huh? I wonder what happens if you mix a hippie and a yuppie? Do you get a flower child in a BMW or a stockbroker who's into healing crystals? Things like that keep me up at night.

I-O on X

On a much more serious note, I thought I'd better get some other opinions on this Generation X thing since I am not at all an expert on this matter. Hence, the usual *Real World* Q&A you've come to know and hopefully love.

(1) Is it reasonable to assume that all people born within a generation have the same motivational/managerial needs?

(2) Are issues facing Generation X any different from issues facing any group of 20–30 year olds in any generation?

(3) Do you think that Generation Xers have different motivational/managerial needs from other employees? If so, what are the differences and what do we need to do to motivate and manage Xers?

(4) Is there any data or research that supports the idea that Generation Xers are different from other employees?

Subj: RE: TIP Comments
Date: 4/21/99 11:31:16 AM Eastern Daylight Time
From: mikeh@PDI-CORP.com (Mike Herron)
To: J9151@aol.com

Thanks so much for the invitation to respond. For what they're worth, Janine, here are my opinions on the subject:

1. Of course not. This is a diversity issue. Even if a group has, on average, certain motivational needs (or other characteristics), this tells you nothing about an individual member of that group. Generation X is just another cohort stereotype. But, that doesn't mean that the group itself doesn't differ, on average, from other generations (which leads to question 2).

2. Absolutely, over and above the political, environmental, and constitutional challenges this country and this planet face. I live in Denver, and yesterday was the Columbine High School attack. What more can I say? Did anyone born in the 30s, 40s, 50s or even 60s have to worry about getting shot in their school library, or dying from sex or a suntan? It really made me think about what my child is going to have to go through in 15 years or so.

3. Okay, two answers to this question. First, managers should be managing individuals based on each individual's particular motivations and needs. Again, this is a diversity issue. What does it matter if it's a group characteristic or an individual one? Assume that what motivates you may not motivate others, find out what turns them on, then do your best to match their needs and goals with the organization's. That's called leadership. Second, given that Generation X, as a group, is facing different issues in their environment than other generations, they might also have some resulting characteristics that differ from those generations. If so, managers may need to keep a couple of things in mind. In working with clients, especially those in the IT world, I have noticed such a difference, and here's a quick summary:

   Money matters less. With today's job market they can get a job for more money in about a week, so this is no temptation or turn-off, as long as your salary is in the ballpark. High salaries and juicy bonuses are not necessarily a competitive advantage, and may not be a meaningful reward for some people. Don't even talk about pensions; younger folks can't even conceive of retiring from a company.

   Fun matters more. Particularly with IT professionals, a key to motivation and job satisfaction is fun. This means working on challenging projects, having the newest software tools, and so forth. It also means working in a job that allows them to have the life outside work that they want.

4. See (3) above, but this is only anecdotal stuff.

Mike Herron
Personnel Decisions International

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Subj: RE: TIP Comments
Date: 4/21/99 8:57:41 PM Eastern Daylight Time
From: reduzzi@lasalle.edu (Tracy Reduzzi)
To: J9151@aol.com

Hi Janine,

Thanks for soliciting my opinion. Here are some of my thoughts about the Gen Xers.

1. I do feel that the media tends to latch onto something and embellish it so much that it takes on a life of its own. (Plus, they get to coin cute catch phrases like "Baby Boomers" "Gen X" and now "Gen Y"). It is a fairly mundane observation that each generation is different from the one before in some way, shape, or form. However, I do feel that "young" workers are different from those considered to be "baby boomers" in a number of ways. Work as we know it today does not have the same meaning for people any longer. It used to be that one had to work in order to survive and no consideration was given to "feeling satisfied" and "being fulfilled." When people married at a young age and had the responsibility of a family, they worked because they had to. This was especially true before the advent of social services. Now, with welfare, for instance, work is not a necessity, but a choice. The people in the generation that witnessed the Depression were just thankful to have jobs, let alone like them. The true findings of the classic Hawthorne Studies revealed that this, (fear of losing the job) at the time was one of the motivators for the workers who were studied.

2. Now, in today's society, many people get married and start families later, attend college instead of getting a job at 18, and are living longer at home with parents. No real responsibility or commitment means that people have the opportunity to leave jobs they don't like without another lined up. There seems to be a sense of entitlement in younger workers, mostly higher educated, that they have the right to have a job they like and be compensated nicely for it. It used to be that it was understood if one worked hard, one would be rewarded. One would expect to stay at one company for their entire career. Companies were loyal to employ-

ees, but not any longer. Since workers from this generation can't be guaranteed a job for life, I think it is a natural response to look out for oneself instead. They have seen their parents get downsized after years of faithful service and lose respect for corporate America. So the work ethic is different now—it is no longer "What I can do for the company?" but "What the company can do for me?" So, I think what this means is that if companies can't offer job security to workers, they need to offer other things. What the other things are depends on the individual.

3. I think the answer to question 3 is that not only do young workers have different motivational needs, but so does everyone else—a fact I think corporations have overlooked for years. Some people would like time off while others would like a flexible schedule, recognition, money (of course), and other things. So, in that respect, I don't feel the younger generation of workers is much different from the older.

Thanks for asking!

Tracy Reduzzi
La Salle University

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So, what's it all about Alfie? In an exceedingly minute and maybe even microscopic nutshell it looks like these contributors think that there are some valid differences with respect to Gen X workers. However, it also looks like they think this typology alone is not sufficient in explaining the motivational needs of all twenty and early thirtysomethings. If Mike is correct, I guess this "fun" thing may be a differentiating factor after all. To my way of thinking though, individual differences still win out in the end. I think that using a singular piece of demographic information (such as one's date of birth) is fine if we are looking to get a very general understanding of a particular group. However, if this information is used as a way to cast aspersions on a group or to make sweeping generalizations about the nature of its people, that's wrong. This, my friends, is nothing more than labeling plain and simple.

The Devil's Dictionary

So with all that said, I thought I would share with you (whoever's left, that is) some terms from the source of it all—the original Xer Douglas Coupland. The following list of terms comes from his 1991 book *Generation X*. Although I really don't believe in this whole X thing, some of his definitions which describe the typical Xer's view on life (as well as some of their life experiences and behavior patterns) are pretty funny. I don't even want to begin to tell you how many of these things I have done myself. Maybe I was wrong about the Gen X thing, but it's too late now, I already wrote the darn column! Until next time....

Clique Management: The need of one generation to see the generation following it as deficient so as to bolster its own collective ego: *"Kids today do nothing. They're so apathetic. We used to go out and protest. All they do is shop and complain."*

McJob: A low-pay, low-prestige, low-dignity, low-benefit, no-future job in the service sector. Frequently considered a satisfying career choice by people who have never held one.

Obscurism: The practice of peppering daily life with obscure references (forgotten films, dead TV stars, unpopular books, defunct countries, etc.) as a subliminal means of showcasing one's education and one's wish to disassociate from the world of mass culture.

Occupational Slumming: Taking a job beneath one's skills or education level as a means of retreat from adult responsibilities and/or avoiding possible failure in one's true occupation.

Rebellion Postponement: The tendency in one's youth to avoid traditionally youthful activities and artistic experiences in order to obtain serious career goals. Sometimes results in the mourning for lost youth at about age 30, followed by silly haircuts and joke-inducing wardrobes.

Recurving: Leaving one job to take another that pays less but places one back on the learning curve.

Squirming: Discomfort inflicted upon young people by old people who see no irony in their gestures. *Karen died a thousand deaths as her father made a big show of tasting a recently manufactured bottle of wine before allowing it to be poured as the family sat in Steak Hut.*

Status Substitution: Using an object with intellectual or fashionable cachet to substitute for an object that is merely pricey: *"Brian, you left your copy of Camus in your brother's BMW."*

Tele-Parablizing: Morals used in everyday life that derive from TV sitcom plots: *"That's just like the episode where Jan lost her glasses."*

Veal-Fattening Pen: Small, cramped office workstations built of fabric-covered wall partitions and inhabited by junior staff members. Named for the pre-slaughter cubicles used by the cattle industry.

Yuppie Wannabe's: An *X* generation subgroup that believes the myth of a yuppie life-style being both satisfying and viable. Tend to be high in debt, involved in some form of substance abuse, and show a willingness to talk about Armageddon after three drinks.

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Well, there you have it, my latest assault on a topical issue and possibly your senses (or sensibilities). As ever, I would like to thank my contributors Mike Herron and Tracy Reduzzi. Thanks again to **Allan Church** for his constructive feedback. Of course, please feel free to contact me either by email at J9151@aol.com or at my home away from home W. Warner Burke Associates, Inc., 201 Wolfs Lane, Pelham, NY 10803 (914) 738–0080 (tel.), (914) 738–1059 (fax).

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International Forum

Dirk D. Steiner
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After several issues devoted to I-O Psychology in Asia and the Americas, the column returns to Europe. Carsten De Dreu from the University of Amsterdam introduces us to the variety of activities undertaken by our Dutch colleagues. Given the number of references he cites from the journals we read regularly, it is likely that their work is already known to a good many of our members. For your comments and suggestions concerning this column, contact me at: Dirk Steiner; Département de Psychologie; Université de Nice-Sophia Antipolis 24, Avenue des Diables Bleus; 06357 Nice Cedex 4; France. E-mail: steiner@unice.fr. Phone: (33) 492–00–11–91. Fax: (33) 492–00–12–97.

Work and Organizational Psychology in the Netherlands

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Many readers may associate the Netherlands with a continuous battle against the sea. Our landscape is indeed characterized by thousands of rivers and streams, lakes, and ponds. Throughout our history, many tales tell stories of heroic individuals and groups fighting against the sea, and even today, Dutch engineers travel around the world to share their expertise in building bridges connecting islands, constructing airports in the sea, and building ocean steamers. Large parts of the country, currently inhabited by millions of people, are called "polders" and were part of the North Sea only 80 years ago. The Netherlands is probably the only country that expanded its territory without winning a war with other countries—we conquered the sea and did so quite effectively. No wonder, then, that our Royal Highness Prince Willem-Alexander specializes in *water management*.

Water management may be important, however, rit is certainly not the main orientation of Dutch work and organizational psychologists. Eight universities in the Netherlands teach an undergraduate program in Work and Organizational Psychology with an average of 50 students per school per year. The modal program involves 2 years of specialization in work and organizational psychology (following a general training in psychology or social sciences). Undergraduate students get acquainted with leading theories and research in work and organizational psychology and, in addition, obtain thorough training in research methodology and statistics, helping them to do solid research in organizations as well as in the laboratory. They complete their degree by doing an empirical study in an organization (or the laboratory) supervised by a faculty member or Ph.D. student.

Most undergraduate students pursue a career outside academics, finding employment as a trainer or consultant, personnel manager, general manager, or occupational health consultant. A minority pursues an academic career and starts a 4-year program of research leading to a Ph.D. Their research is funded by the Netherlands Foundation for Scientific Research, Dutch Industries, or the respective Departments of Psychology. In the Netherlands, graduate training is organized in so-called Research Schools, in which various departments collaborate to share their expertise and resources to provide graduate students with seminars, courses, and research meetings. The majority of graduate students in work and organizational psychology participate in Research Schools for social psychology, for psychometrics, and for psychology and health.

Dutch research in work and organizational psychology considers three interrelated themes. The first is concerned with mental and physical health at work, and includes research on fatigue, burnout (e.g., Van Dierendonck, Schaufeli, & Buunk, 1998), stress and stress management (e.g., Meijman & Kompier, 1998), and work motivation and performance (e.g., Frese, Kring, Soose, & Sempel, 1996; Roe, 1997; Sonnentag, 1998; Van Eerde & Thierry, 1996). The second major research theme involves personnel selection and test development. This research focuses on adverse impact and differential validity for majority and minority group employees (e.g., Te Nijenhuis & Van de Flier, 1997), and on person-organization fit (e.g., Van Vianen, 1997). Finally, there is a strong research emphasis on social psychological aspects of organizations to improve understanding of conflict and negotiation (e.g., De Dreu, Giebels, & Van de Vliert, 1998), the role of commitment and identification in team functioning and performance (e.g., Ellemers, De Gilder & Van den Heuvel, 1998; Van Knippenberg & Van Schie, in press), leadership issues (e.g., Den Hartog, Van Muijen, & Koopman, 1997), and cross-cultural aspects of organizational life (Van de Vliert & VanYperen, 1996)

Traditionally, Dutch work and organizational psychologists have been strongly concerned with integrating their research with its applications in organizations. As a result, the field has a strong track record in terms of professional publications (in Dutch) targeted towards those employed by Dutch organizations. Interdepartmental collaborations resulted in a highly popular and well-used Dutch *Handbook of Work and Organizational Psychology*, edited by Drenth, Thierry and De Wolff (in 1998, a revised and updated version in English was published by Psychology Press). This paved the way for an increasingly international focus in research and theory development in the past 5 years. That is, we witness a steep increase in research publications in the leading journals in our field such as *Journal of Applied Psychology, Journal of Occupational and Organizational Psychology, Journal of Organizational Behavior, Organizational Behavior and Human Decision Processes*, and *Academy of Management Journal*.

In the past several years Dutch work and organizational psychologists increasingly collaborated in research and graduate teaching with visitors from Aus-

tralia, Germany, the United Kingdom, and the United States. For example, at the University of Amsterdam collaborative research is done with colleagues at the Aston Business School (University of Birmingham), the Center for Creative Leadership, the University of Illinois at Urbana-Champaign, GSIA at Carnegie Mellon University, the University of Iowa, and the Yale School of Management. **Bob Wood, Dirk Steiner, Ben Schneider, Bob House, Dan Ilgen, Steve Motowidlow, Russell Cropanzano, Avie Klugler,** and **Miriam Erez** recently visited us to share their expertise in graduate teaching and seminars.

Dutch work and organizational psychology is going through exciting times, with a stronger international focus, interesting research, and pleasant and productive collaborations with colleagues from all over the world. Concerning our research, you can read about it in the journals. As for water management, however, you must experience it for yourself. So, don't hesitate, visit us and we will show you around!

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Informed Decisions: Research-Based Practice Notes

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The use of surveys to address organizational research needs (e.g., pinpointing areas of concern, monitoring program impact, and providing input for future decisions) has increased tremendously over the past 50 years (Kraut, 1996). Although surveys are a valuable tool for gathering information, a critical mass exists regarding the number of surveys potential respondents can and will complete. Therefore, to increase the probability of your survey being responded to and to save employee time, the survey should be short and concise; however, the quality of the survey must not be compromised. To that end, I have asked **Evan Sinar** and Amanda Julian to author this quarter's *Informed Decisions* column. Evan and Amanda present an interesting discussion on how to construct/reconstruct surveys so that they are shorter but just as high in quality as the equivalent longer form. If you have any comments/questions concerning this column please contact Evan at esinar@bgnet.bgsu.edu. If you have any ideas for future columns or would like to propose authoring a column, please contact me at rogelbe@bgnet.bgsu.edu.

Little Scales with Big Potential: Strategies for Developing Shortened Scale Versions

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Are happier workers more productive workers? Do employees with higher job involvement harbor fewer intentions to quit? Are workers more trusting in their managers this year than last? Which work groups in the company report experiencing the most severe on-the-job stress? To address such questions as they arise within organizations, I-O practitioners have consistently turned to employee attitude surveys. When designing and administering these surveys, however, practitioners are often faced with competing pressures—while their professional training encourages them to use lengthy, full versions of established scales, management and logistical concerns argue for the use of single-item measures: After all, employee time to complete surveys is time spent away from the job. One potential solution to this dilemma is the use of concise instruments that provide psychometric integrity and content range similar to that of a full-length scale. In this article, we outline procedures for developing such "short form" scales by reducing the number of items on an existing instrument.

The Oversurveyed Workforce

Used extensively by I-O academics and practitioners alike, questionnaire-based psychological measures are extremely common in organizational research.

A browse through any recent journal issue reveals the pervasiveness of variables assessed via self-report questionnaire, and survey administration has become a primary job component for many I-O practitioners. Although questionnaires certainly have advantages over alternative data collection approaches (e.g., ease of administration and scoring, high reliability), some unintended consequences of the ubiquitous employee attitude survey have recently begun to surface. One problematic consequence stems from indications of an "oversurveyed" workforce-employees may simply have reached a point of survey saturation (Kraut & Saari, 1999). Respondent motivation, return rates, and response quality may be suffering as a result of surveys which are too frequent, cognitively draining, and time-consuming (Rogelberg, 1998). Given that such outcomes pose a fundamental threat to the usefulness of questionnaires for research conducted in field settings, exploration of potential remedies is imperative. One promising approach is the development of shortened scale versions. Ideally, these shortened scale forms will fulfill the dual objectives of: (a) minimizing the length, redundancy, and time required to complete the measure, and (b) maintaining adequate coverage of the content domain and preserving the validity of the original instrument. This paper's goal is an exploration of scale reduction techniques with these objectives in mind.

Why Reduce a Scale?

Well-constructed short psychological instruments have many potential benefits in comparison to longer scales. Shorter surveys may benefit practitioners by engendering higher response rates, which in turn will increase their ability to detect "true" effects within a dataset. Concise surveys will prove particularly fruitful when applied to, for example, longitudinal research designs, where any amount of participant attrition is a serious concern. An increased rate of return is only one part of the equation, however—response *quality* may also be enhanced when employees respond carefully to each of 30 items, rather than haphazardly to the final 30 items on a 100-item questionnaire. In general, employees may be more motivated to provide high-quality, well-considered responses when faced with questionnaires of a visibly manageable length. Moreover, surveys that are inordinately long run the risk of appearing redundant and irrelevant—characteristics that will threaten an instrument's face validity. Finally and perhaps most importantly, organizational representatives will likely be more receptive to a survey requiring only a small amount of employee time to complete.

Scale Reduction in Existing Literature

Despite the benefits of succinct instruments, researchers wishing to reduce a particular measure will find few sources of guidance within the existing literature. Although a vast literature exists regarding "best practice" methods for developing a scale (see Hinkin, 1995, for a review), measurement textbooks

and journal articles devote almost no attention to methods for reducing a scale. We view this as an important point given three fundamental differences between scale reduction and scale development. First, while a scale is developed using a "raw" item pool, reducing a scale involves making decisions among an already refined set of items (i.e., the full-length scale version). Second, scale development processes center around the goal of establishing validity, while scale reduction focuses on maintaining the validity of the original version. Third, scale reducers strive for an adequate "match" between the outcomes (e.g., relations with other variables of interest) produced by the original and short versions—this matching process will be essential if results obtained using the short version are to be compared to those from the original scale. Because of these differences between developing and reducing a scale, it will be important to consider the unique item- and scale-level considerations involved in scale reduction.

Criteria for Selecting Reduced Scale Items

When individual items are evaluated to make decisions about which to retain for a reduced scale version, a variety of item analysis indices are available. Published literature, however, suggests that two criteria are by far the most prevalent: item-total correlations (for unidimensional scales), and factor loadings (for multidimensional scales). In this article, we extend this limited range of item evaluation criteria to encompass other forms of potentially useful information for guiding scale reduction decisions. Regardless of which type of information is used, items can be rank-ordered from high to low based on their scores on the various criteria. Once rank-ordered, a predetermined number of items (guided by the desired length of the reduced scale) can be selected. Our discussion of item-level indices centers around a three-category framework, including internal, external, and judgmental criteria. In the following section, we define each of these categories and discuss their components in terms of their strengths and weaknesses, reduced scale characteristics likely from their use, and associated feasibility issues (e.g., sample size required).

Internal Criteria

Internal criteria deal with item properties that are determined in reference to the scale itself. Because they require no additional information beyond that contained within responses to the scale items themselves, they can be calculated based on a single administration of the full-length instrument. Specific internal item evaluation criteria include the following:

Item-total correlations/Factor loadings—Grouped together because of their focus on the relation between individual items and the larger scale or subscale, this information is obtained through most statistical packages and can be used to select a specific number of "best" items for the reduced scale. The primary strength of these criteria is that they will typically maximize a shortened scale's

internal consistency reliability. However, the exclusive use of these techniques may have severe limitations, including reduced item sets that are highly redundant in appearance, narrow in content, low in validity, and difficult to transfer across cultures (Boyle, 1991). This is an important point, given the frequent use of these techniques for scale reduction in current practice. Sample sizes of 200 or more (depending on the number of items in the scale) are recommended for meaningful implementation of these criteria.

Item response theory (IRT) discrimination parameters—Produced by specialized IRT programs (e.g., BILOG, MULTILOG), these values can also be used to select the "best" items based on their ability to discriminate among employees at different levels of the construct being assessed. (for a discussion of IRT topics as applied to scale construction, see Hambleton & Jones, 1993).

IRT item information—Closely linked to the discrimination parameter and another output of IRT software packages is the information provided by an item about employees at a particular level of the instrument's underlying construct. Item information can be a particularly useful criterion for scale reduction when the reduced scale has a targeted, rather than a general purpose. For example, items can be selected based on their specific ability to distinguish between employees who are extremely and those who are moderately committed to the organization. In contrast to their strengths, a weakness of both IRT-based criteria is required sample size: 300+, depending on the number of response options on the scale and the complexity of the IRT model used.

Variance explained in total scale score—Items can also be evaluated in terms of the incremental variance they explain when individual items serve as independent variables and the total scale score serves as a dependent variable. This criterion's focus on an item's incremental value beyond others may help to alleviate some of the item redundancy likely through use of item-total correlations or factor loadings to select reduced scale items.

External Criterion

In addition to internal criteria, examining an **external criterion** will be necessary to ensure that the reduced version of the instrument maintains the same set of relations with other constructs as the full version. Specifically, an external criterion assesses the relation of an item with measures of other meaningful variables. In practice, such criteria could be used to select items that are most predictive of an important outcome variable (for example, the individual items from a job satisfaction scale that best predict scores on a turnover intentions measure). As would be expected, such an approach will likely produce reduced scales with high validity for predicting external criteria. However, reliability for these scales may be lower than for those based on internal approaches. Also, although only moderate sample sizes will be required to calculate this external criterion, cross-validation in a second sample should be employed to account for the shrinkage expected in these item-level validities.

Judgmental Criteria

The final set of criteria, judgmental, is also the most neglected in traditional practice. **Judgmental criteria** require subjective assessment for the evaluation of item quality, item appropriateness, or any other qualitative item property of interest. For example, each item on a scale to address managerial cynicism can be presented to a group of managers, along with instructions to rate each item's appropriateness for the particular organization in which the scale will be administered. Methods for obtaining quantitative ratings of item characteristics have been established (see, for example, Nevo, 1985), and can be incorporated along with other criteria into the decision about items for a reduced scale version. It is important to note, however, that item redundancy, an important consideration when shortening a scale, can only be evaluated when all reduced scale items are considered as a set. This and other types of scale-level evaluations of reduced scales are discussed in the next section. Scales resulting from the use of judgmental criteria may not attain the reliability of those derived through internal criteria, or the criterion-related validity of those developed based on an external criterion, but they may circumvent some negative respondent reactions. Also, from a feasibility standpoint, judgmental criteria can be obtained from a relatively small sample of judges who should represent the target population for the reduced scale version.

A brief note should be made on strategies for combining these various criteria into a summary judgment. Given that each set of criteria has its own advantages and disadvantages, the use of multiple approaches may help to alleviate the deficiencies of any one technique. In particular, internal approaches to item evaluation (e.g., item-total correlations) should be used for scale reduction only when accompanied by awareness of potential negative consequences stemming from their use. In addition, the specific goals of the user or constituent group may provide guidance about how to weigh each type of criterion. For example, if prediction of an external outcome is the primary interest, a scale reducer may wish to assign a high weight to external evaluation criteria when forming a composite index of item quality. Conversely, if respondent reactions are of particular concern (for example, if surveys deal with a recent series of layoffs of the survey recipient's fellow workers), obtaining judgmental data and integrating them into the scale reduction decision making process may prove useful.

Scale-Level Evaluation of Shortened Instruments

Once a reduced scale has been formulated, it should be validated as a stand-alone version, even if based on a well-validated original instrument. Again, as with the construction of reduced scales, validation of these shorter instruments in practice falls short of ideal procedures. Although examples do exist of "best practices" in validating shortened scale versions prior to their use (e.g., Mount, Barrick, & Strauss, 1994), many studies make no attempt to evaluate a shortened scale's construct validity. Traditional scale-level analyses include calculating internal consistency reliability estimates of the reduced scale version, although the reduced scale's reliability will, of course, be less than the full version's because of fewer items. Reduced scales can also be compared with the original, full-length version in terms of similarity of factor structure, relations with external variables (i.e., convergent and discriminant validity), and scale means and standard deviations. An additional method of exploring the "match" between the full and reduced scales is provided by plotting the test information functions (TIFs; an aggregated form of the item information discussed above) resulting from an IRT analysis of both scales. The TIF graphically displays the amount of information provided by all of the items in the scale, as a set, about the underlying trait of interest. If an objective of scale reduction is to create a shorter scale with similar properties to the original, it is possible to plot the TIFs of both versions to examine if parallelism exists.

It should be noted that all of the scale level analyses mentioned above can be performed on the reduced scale items after they have been administered in the context of the entire scale. However, we recommend the reduced version be administered alone when it is feasible to explore the possibility of effects resulting from variations in the context in which items are presented to respondents. Use of the reduced scale on its own will also aid in the assessment of redundancy among items, adequacy of content coverage, and the compilation of norms tailored specifically to that instrument. As a final point in this section, one should be aware that the quality of the original scale will place a boundary on the quality attainable for the shortened scale version, given that the original scale constitutes the item pool for the scale reduction process.

Options for Practitioners

Considering the problematic nature of the scale reduction process, what options are available to the researcher interested in the potential benefits (e.g., increased response rate, enhanced respondent reactions) of well-developed, concise instruments? Our discussion to this point has made the implicit assumption that item-level data for all items on the full-length scale are readily available (e.g., through archival data existing within the organization) or easily obtainable to guide the scale reduction process. In many situations, this may not be the case. Nevertheless, practitioners who are enticed by the benefits of using abbreviated measurement tools but who are somewhat constrained in their data collection opportunities may still have available options for implementing a shortened measurement tool, including the following:

Joint efforts in data collection. Clearly, an ideal solution is a personally conducted, full-scale data collection effort designed with the specific objective of validating the reduced scale version prior to its implementation. However, this strategy may be unfeasible to many practitioners operating under logistical constraints in the form of sample availability, time required, and monetary re-

sources. Smaller organizations may wish to consider consortium studies designed to pool resources and sample sizes to produce data that can be used to benefit each company involved. In addition, some of the item evaluation criteria (e.g. subjective item quality ratings) can be obtained with small numbers of respondents and incorporated into the development process.

Find an existing short version. If using an existing instrument, a shortened version may already exist and can be sought out using traditional methods for locating psychological measures (for a review, see Field, Childress, & Bedeian, 1996; refer to http://ericae.net/testcol.htm for an additional, extremely useful source). Numerous examples exist of established measures that have been adapted to a shortened form (e.g., the Job Descriptive Index, the Minnesota Satisfaction Questionnaire, Lodahl & Kejner's Job Involvement scale). This will be the simplest method, because the statistical properties of the shortened scale will be reported and minimal, if any, additional research will be needed. However, attention should still be given to the development methods for the reduced scale.

Summary and Final Recommendations

To summarize our discussion, well-developed, succinct instrument forms can potentially benefit I-O practitioners through: (a) reducing time and money required for survey administration, (b) increasing survey return rates, (c) counteracting reductions in respondent motivation and response quality brought about by current trends toward "oversurveying," (d) allowing measurement of more relevant variables while holding total survey length constant, (e) enhancing an organization's receptiveness to research-focus surveys, and perhaps most broadly, (f) maintaining the feasibility of survey-based field research given the increasing number and complexity of psychological variables encompassed by the study of workplace behavior.

Although existing literature is extremely limited regarding scale reduction in particular, related findings and an initial empirical investigation (see Sinar, Julian, Stanton, Balzer, Smith, & Parra, 1999) lead us to propose the following recommendations. First, item-level measures of internal consistency such as item-total correlations and factor loadings should not used for scale reduction without an awareness of potential negative consequences. Second, to the extent that they are available, external and judgmental item evaluation criteria should play a role in scale reduction decisions. The use of such techniques may facilitate the development of reduced scales that avoid redundancy and adverse respondent reactions but that maintain the construct validity of the original instrument. Third, it may be useful for scale originators with access to detailed item-level data from initial validation studies to develop short versions of lengthy scales. This may circumvent less-than-optimal scale reduction decisions by secondary researchers, as well as extending the practical applications of the instrument (e.g., onto questionnaires where limited space is available).

As a final point, we note that we do not advocate a complete abandonment of full-length, well-developed scale versions in favor of concise instrument forms. Clearly, an established scale in its original form will be optimal in situations that allow its administration. However, in the face of resource constraints dictating that a scale must be shortened if it is to be used at all, informed procedures for scale reduction will be extremely useful. Although discussion and empirical work on the specific topic of scale reduction is limited and further research is needed, the recommendations presented here may provide an initial guide to potential procedures for researchers wishing to develop shortened scales from existing instruments.

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Global Vision: Cultural Processes in Performance Appraisal and Group Loyalty and International Testing Issues

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The aim of *Global Vision* is to provide a forum for discussing international developments in practice, research, and theory especially in relation to emerging views and characteristics of workforces and workplaces. The informative value of the column depends heavily upon your knowledge, experience, and intuition. You can personally help by sending me a note—be it a problem you are trying to solve, research you are conducting, a consulting tip, something you'd like to hear about, or the name of a person or organization you recommend that I contact. You can also send newspaper clippings, references to a great article or book you read, conference papers, or areas of emerging controversy (for your organization or for theory). Further, I am seeking organizations or academic departments to profile that provide examples of innovation in philosophy, research, development, application, or implementation aimed at meeting the demands of contemporary and emerging environments. I am eager to receive your ideas and submissions. You can reach me at any of the following: Graduate School of Management, The University of Queensland, Brisbane, Queensland 4072, Australia; Phone: +61 7 3365–6747; Fax: +61 7 3365–6988; Internet: c.hartel@gsm.uq.edu.au

Multi-National Study of Performance Appraisal Attitudes, Beliefs, and Ratings: Preliminary Findings

Following up on the request in my January column for research dwelling upon an I-O psychology theme from an international perspective, Professor **Aharon Tziner** of the School of Business Administration at Netanya Academic College in Israel sent in a paper he presented at the 1998 International Congress of Applied Psychology Conference, co-authored with **Kevin Murphy** and **Jan Cleveland** (Tziner, Murphy, & Cleveland, 1998). The paper reports on preliminary findings of a cross-cultural comparison of the relationships between perceptions of organization climate, commitment, self-efficacy in appraisal, uses of appraisal, and raters' confidence and comfort with appraisal systems as well as specific rating behaviors.

Murphy and Cleveland pointed out in their 1991 book that performance ratings are not only affected by appraisal system and rater characteristics but also the broader organizational context. That is, ratings may be manipulated by appraisers in order to obtain outcomes desirable to oneself or the organization. Because of this, it is important to understand the attitudes and beliefs that raters have with respect to performance appraisal.

Data was collected from different types of organizations in three different countries, namely, Israel, the U.S., and French-speaking Canada. The overall findings show that attitude and beliefs about organizations and performance appraisal systems predict rating level, ratee discrimination, and dimension discrimination. Analyses also give preliminary indication of consistency across cultures and settings. Confidence in performance appraisal systems was identified as the most important predictor of rating level. That is, "raters who believe that others distort and inflate their ratings are likely to themselves inflate and distort" (p. 16).

Professor Tziner's team intends to broaden the number of cultures, industries, and raters sampled to obtain more specific information on the effects of cultural and organizational factors on the relationships between attitudes, beliefs, and rating behaviors.

Occupational Testing: Transnational Issues

One aim of this column is to present information and showcase research that makes the cultural values underpinning the practice and study of work psychology explicit. For example, work psychology in the U.S. is rooted in strong psychometric traditions and a focus on selecting people to fit jobs. Other countries, such as Germany, focus on training and modifying systems to fit people. These differences are associated, in part, with different social and political values.

Because countries differ in their approaches and regulation of work, the practice and implementation of work psychology practices differ too. In the U.S., occupational testing is widely accepted, having a long history as a dominant aspect of practice and research in I-O psychology. Employment testing and decision making in the U.S. is based on the value of fitting people to identified job requirements. While the use of psychological testing for occupational assessment is strongest in Western cultures, it is present to some degree in all the major industrialized countries (Bartram, 1998). However, testing practices, aims, and legislation vary from country to country.

In his article reporting on international test issues, Dr. Dave Bartram of the University of Hull raised a number of ethical and research issues. Some of these are:

1. Given the movement of labour across nations and the multilingual nature of today's workforce, how do we ensure fair unbiased testing?
2. What is the minimal set of standards necessary for ethical and fair use of tests across the world, which will enable countries to have the freedom to customize guidelines to cultural characteristics?
3. What issues does remote assessment (from one country to another) raise?
4. What levels of competence for test use are required relative to "mode of use and area of application"?

5. How can countries better share information about test practices, guidelines, and legislation?

6. What are the standards for translation and use of tests in other countries?

7. What measures will ensure test security and accreditation across countries and on the Internet?

One body, The International Test Commission (ITC), is undertaking two major projects to address these issues. The ITC is comprised of "national psychological associations, test commissions, test publishers, and other organizations committed to promoting effective testing and assessment policies and to the proper development, evaluation and uses of educational and psychological instruments." (Bartram, 1998, p. 159, extracted from ITC Goal Statement, ITC Directory, 1995). The projects of the ITC are to develop international guidelines on adapting tests and international guidelines for test use. These guidelines will draw upon practices, codes, and professional documents from around the world. Test use guidelines are expected to be presented at "the ITC Council meeting in Rome in August 1999."

Same Result, Different Processes: The Need for Cross-Cultural Studies

Research often shows the same phenomena across cultures. For example, "loyalty and self-sacrifice to (one's) ingroup is found everywhere on the earth" (Yuki & Brewer, 1999). However, the psychological processes leading to the phenomena may be quite different in different cultural contexts. This point is nicely illustrated by a recent paper presented at the Society of Australasian Social Psychologists conference. The paper, by Masaki Yuki of Hokkaido University in Japan and Marilyn Brewer of The Ohio State University (1999) investigates the psychological processes underlying group loyalty of Americans and Japanese. In their paper, they argue that Westerners' group-loyalty results from a self-categorization process whereas East Asians' group-loyalty results from a mutual cooperation process. Westerners see the self as similar to or interchangeable with others in the ingroup so equate helping their ingroup with helping themselves. East Asians, on the other hand, see the self as being highly individuated but embedded within the group network so that their helping behavior is reciprocated. The research examined the role of intragroup similarity and the knowledge of connections within the group and the mediating roles of self-extension and reciprocal rewards in 126 American and 122 Japanese university undergraduate students. The results showed that "American group-loyalty was related to perceived intragroup similarity, which was mediated by…self-extension" whereas Japanese group-loyalty was related to knowledge of connections within the group, "which was mediated by the expectation of reciprocal rewards." The findings illustrate that even where cultures appear to be the same; the reasons for that similarity may be different.

Clearly cross-cultural studies are necessary to build more comprehensive psychological theories.

Column Mission and Call for Contributions for Upcoming Columns

My goal for this column is to discuss within a global framework the future of practice and research related to work and the workplace. The effectiveness of I-O research and practice in different cultural settings requires an understanding, openness, and appreciation of the societies in which we operate. As such, it is imperative that you share your learnings from your international experiences and that those of you outside of North America share the perspectives of your home countries. To this end, I hope that, no matter where you are in the world, you will e-mail, call, write or fax me (see contact information below) with your suggestions, views, requests and contributions (the name of an organization or academic department I can profile in a manner consistent with the goals of this column, newspaper clippings, company program pamphlets, news of research-in-progress, experience with OD and HR strategies/programs and any other information—nothing is too small). Please send any information relevant to the points discussed in this column along with your ideas for future topics to me (see contact information above).

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Work in the 21st Century: The Role of I-O in Organizational Change

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I considered writing about the role of I-O psychologists in organizational change at the 1998 SIOP conference. There were a couple of sessions on change-related topics, and I found them to be thought provoking and well attended. It appeared that many of us with I-O training were involved in organizational change work, either directly or indirectly. SIOP 1999 confirmed my observations of last year—organizational change seems to be as common a topic at social hours as 360-degree feedback or test development.

Why is Organizational Change an Important Topic to I-O Psychologists?

Organizations are undergoing dramatic change, and as a result, their need for guidance and support has increased. Organizational leaders turn to people they trust when they want to create change, and sometimes that trusted person is an I-O psychologist.

More and more often, traditional I-O work is linked to a major change initiative, and internal and external consultants get involved in the central change itself through their involvement with another project or process.

Organizational leaders are learning that sustainable change requires ongoing reinforcement and support. Some of the best management tools for supporting change are HR tools such as selection processes (bring in people who will fit the new culture), performance management systems (link individual performance to organizational success), and incentive programs (reward people for contributing in ways that support the change). I-O psychologists are often the best people to create those tools.

There are many models of organizational change and how to manage those efforts. Here is a description of a basic approach to creating change that will structure this discussion of how our contributions can support successful organizational change initiatives.

- The organization experiences some pain (e.g., low performance, high attrition, sabotage, declining market share).
- Leaders create a vision and goals for how the organization can be successful.
- Leaders and/or others conduct an assessment of what it will take to achieve the vision, and the organization's readiness for those changes.
- A team of experts designs the change effort, including identifying the areas of resistance likely to exist, and determining who will be affected, who needs to be involved, what tools, information, and/or structures need to change, and what HR systems reinforce the "old" way. This step would also include determining what it will take to sustain the change after the large-scale effort is completed.
- A team of experts plans the change effort, including developing a timeline, assigning accountabilities, developing a communication plan, and considering what support (e.g., training, equipment) employees will need during the transition.
- An implementation team manages the transition, communicates with employees, adjusts the design, and builds and/or modifies systems to institutionalize the new approach.
- Leaders and/or other experts evaluate the effectiveness of the change effort by looking at performance (organizational and individual) as well as indicators of employee satisfaction.

Given this basic model of organizational change, how do we measure up as experts who can support successful change efforts? I believe that many of our "core" skills are directly relevant to the activities involved in creating change. Below, I describe how some of these skills are applicable. Our challenge may be to think about our contributions in terms of the larger change process, and to link our work to the goals of the change.

Job Analysis and Work Analysis

Many change projects involve changing the way work flows through the organization—either by reengineering a specific work process, or changing the structure of particular jobs. Our ability to observe, understand, and describe work can be critical to leaders who want to make careful, informed decisions about changing the way work is performed.

Selection and Assessment

Selection and assessment processes are most relevant to change efforts in two ways. First, if the change effort will involve moving people around within the organization, those decisions can be based on an accurate assessment of each employee's skills relative to the job(s) for which they are being considered. Second, following a successful change effort, it is important that people hired and promoted in the organization bring the KSAs required to be successful within the new structures or approaches.

Performance Management

Performance management or appraisal systems can be very effective communication tools for managers trying to help employees understand what is expected of them as their organization changes. Carefully defined performance dimensions and expectations can serve as a road map to employees to help

them identify how an organizational change affects their particular job. In a well-designed performance management system, employees can see directly the link between their performance and the success of the organization. In addition to delineating what is expected of employees performing their jobs, performance management systems are a vehicle for communicating to managers and leaders what is expected of them as change agents.

Training

Training can be critical to successful change efforts for a couple of reasons. Most centrally, if employees will be expected to perform their jobs differently, they will be more likely to survive the transition if they have an opportunity to develop new skills and practice the new behaviors they will be expected to perform. I-O psychologists can conduct needs analyses to determine what skills will be required in the future and in what areas particular individuals need development. In addition, training is an obvious tool for preparing managers and other change agents to create and support change in their areas (e.g., communication skills and strategies, handling resistance).

Rewards

One of the most powerful tools available to people trying to change an organization is to make sure that reward systems reinforce "new" behaviors and do not reinforce "old" behaviors. In order to create these reward systems, we need to understand what behaviors at the individual level contribute to success at the organizational level. Compensation systems should be structured to pay for skills, actions, and/or results that are consistent with the organization's new strategy or direction. In order for this to be an effective tool, employees need to receive clear communications explaining what the compensation system is based on so that they can direct their own behavior accordingly. Similarly, other reward systems (e.g., recognition programs, profit-sharing plans, and other incentive programs) can all be built on the same principles.

Job Design and Organizational Structure

Many organizational changes involve changing employees' work assignments and responsibilities, often through restructuring of roles and reporting relationships. When new jobs and organizational structures are created carefully, some of the ambiguity and uncertainty that accompanies most change efforts can be reduced. We can provide a clear focus on how work will be distributed and performed, as well as an understanding of what it will take to prepare employees to move into new roles.

Assessing Employee Opinions

To fully understand what it will take to effect organizational change, it is often critical to assess employees' opinions about what is working and what is not. In many cases, it is through an assessment of employees' perspectives that organizational leaders identify the need for change (this could be the "pain" referred to in Step 1 above) and the organization's readiness for it. Our training in the development, administration, and interpretation of employee opinion surveys is directly relevant to the activities involved in both the design and evaluation of change processes.

After reviewing this list, one might wonder how this is different from the work many of us do every day—I don't believe the work itself *is* substantially different. What may be different, however, is the way we use these "core" skills—if we are supporting a change process, we should be applying our skills by constructing an integrated system that supports and reinforces the new direction of the organization.

There are some challenges associated with creating change for which we may require some additional training and/or experience in order to contribute significantly to the process. Handling significant employee resistance, for instance, may require a level of facilitation, communication, and influence skills that aren't a traditional part of our training. I-O psychologists who want to contribute more effectively to change initiatives have several options. Experience is perhaps the most common path to developing these skills—people working on related projects in organizations undergoing significant change can challenge themselves to pay attention to how the organization is changing, what barriers the change introduces, and how their work could support the overall change process. Others choose to find training in the skills they need—through workshops, executive education sessions, or enrolling in programs that focus on organizational effectiveness and change. One recent *Harvard Business Review* article presents a compelling link between organizational change and human resources (Ulrich, 1998), which provides a series of questions that can facilitate the process of designing and creating change.

I'm interested in hearing from you. How is your research and/or practice changing as we approach the 21st century? Are the predictions we have been reading about and discussing for the last decade coming true? I can be reached at Terranova Consulting Group 61–F Avenida de Orinda, Orinda, CA 94563, Ph (925) 253–0458, Fax (925) 253–9432, or karen@terranovaconsulting.com.

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Traveling in Cyberspace: Psychology and Software Design, Part I

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Do these situations sound familiar? You sit down at a computer and open a software application you've never used before, say a word processor. You glance at the interface, and start working. You don't open the user manual, or take a tour through the online tutorial. You dive right in to your task. You complete your work—writing the document, formatting its contents, printing and saving, and exiting the application—all without having to put too much thought into it. You feel productive and satisfied.

The second situation is entirely different. You start the application and glance at the interface. Nothing looks familiar. You are unsure where you should start, and you cannot find the functions you need to do your work. The application seems confusing, and the general experience is bad. You decide to never use that software again.

If those situations don't sound familiar to you, they do to me. I've used hundreds of software applications on various platforms, and I've experienced each scenario, multiple times. Most of my experiences fall somewhere in between; some parts of the software are easy to use, whereas other parts are difficult. So what is the difference between the two software applications? Why was the first application so much easier to use than the second? The answer is *software design*.

Design is a ubiquitous phenomena. Houses are designed. Cars are designed. Clothes are designed. Software is designed. Just as there are poorly designed houses, cars, and clothes (remember the '70s?), there is poorly designed software.

Software design is an art and a science. It is an interdisciplinary task, and to be done properly, requires a varied skill set comprising software engineering, programming, graphic design, and *psychology*. Indeed, the second scenario described above is probably a clue that the psychological properties of the software were not give due consideration during the design of the software. This edition of *Traveling in Cyberspace* is about psychology and its role in software design. As you will see, having an understanding of human behavior is critical to the design of computer software. I will begin by describing *how* and *why* psychology plays an important role in software design.

Software: Old and New

Not too long ago you were likely to find your company's computer—if they were able to afford one—located in the dark recesses of your building. Its size was imposing, perhaps taking most of the space in a very large room. Few workers had any direct contact with it, and those who did ("computer technicians") probably had an advanced degree in engineering, mathematics, or computer science, or a combination thereof. Computer technicians didn't interact

with computers the way we do today, directly inputting information into the computer. Instead, they used a "punch key machine" to type instructions on "punch cards." Punch cards were rectangular shaped pieces of light cardboard that conveyed instructions to the computer. These cards were fed into the computer as a single "batch" process, and hundreds of such cards might be required to perform a complex mathematical analysis. Minutes or sometimes hours after the cards were fed into the computer you could view your results, all printed out on wide green and white-striped paper.

Of course, problems did occasionally arise. Computers were definitely not fault-tolerant. If you typed in the wrong instructions on the punch cards you didn't find out until after you picked up your print out (minutes, hours, or days later). Also, the weather could wreck havoc: A professor once told me of the horror stories of walking across a Midwestern campus during the winter while carrying a box filled with punch cards. Watch out for that patch of ice! You get the picture...

Today's computer software is *interactive*. We open a software application and start inputting information directly and immediately. We type and information appears on the screen in real time. No need for any intermediaries such as punch cards. If we make a mistake while we type, we usually catch it, and can correct it immediately. We open old documents and view them, manipulate them (format, spell check, print, save, etc.), or even delete them if they no longer serve a useful purpose. Activities that used to take hours on the old mainframes now take minutes, or even seconds, all done conveniently right on our desktop.

The User Interface IS the Software

A user interface is that part of the software with which users interact. There were no user interfaces per se on the mainframes of old. The only thing close to a user interface was the punch card machine, and that wasn't even a part of the computer. User interfaces have changed considerably over the last 20 years. The first user interfaces for personal computers were "command line" interfaces, so named because users typed commands (e.g., "mkdir," "rm," "type foo.txt > lpt1") at the command prompt in order to make the computer to do something. (For you youngsters, a command prompt would look something like "C:\DOS>").

Command line interfaces were difficult to operate because users had to retain all those commands in their head (or had to have a user manual handy at all times). In the late 1970's, Xerox PARC created the Star, the first graphical user interface or GUI (Norman, 1990). The Star used the same "desktop" metaphor that we see today on all of the popular operating systems such as Apple's Macintosh Operating System and Microsoft Windows.

GUIs were hailed as a desirable alternative to command line interfaces because they allowed users to manipulate the computer directly through graphical objects displayed on the screen. No longer did users have to remember hundreds of commands, flags, and switches. With a GUI, all the functions and information available on the computer were represented directly by graphical "widgets": icons, menus, scrollbars, listboxes, and so on. Rather than forcing

users to "recall" information, now users could "recognize" information because it was all plainly visible on the screen. Unquestionably, the GUI has been a key factor in the growing popularity and use of personal computers.

Even simple software can be quite complex. There may be thousands of lines of code that define and perform the functions underlying the software. This portion of the software, however, is invisible to the user. Fortunately, there is no need for most users to be able to view, understand, or even care, about it, just as long as it works. In contrast, the user interface is what is *visible* to the human user: it is the amalgam of menus, icons, graphics, scrollbars, and so forth, that allow the user to interact with the software. It is the mechanism that allows the user to get his/her work done. It has been said that to most users, the user interface IS the software. Accordingly, more and more importance is being placed on good user interface design and usability.[1] (Throughout the remainder of my column I will use the term "software" and "user interface" interchangeably. My sincere apologies to my computer science colleagues who may take umbrage at this!)

Interface design is an iterative process comprised of design, prototyping, and evaluation. Prevailing theory and practice in user-interface design stresses a "user-centered" approach. User-centered design is a software design process that acknowledges that users, their work, and working environment, are key factors which must be identified, understood, and given due consideration to ensure a good software product. Industrial and organizational psychologists can play an important role at the very start of the user-interface design lifecycle by assisting in identifying users' individual differences that are relevant to design, as well as identifying the tasks performed by users.

Identifying Users

A critical first step in user-centered design is to identify the prospective users of the software. A particular population of users will have various psychological, physical, educational, and experiential characteristics that will affect how users interact and react to the software. Therefore, the goals of design may differ depending upon who the users are. Consider a telemarketing application. Typical users may have (a) a high-school education, (b) little or no prior computer experience, (c) little or no experience in telemarketing, (d) a high degree of turnover, and (e) little training on the software. We would consider these "novice users." Appropriate design goals for novice users may therefore include (a) making the software easy to learn and remember, (b) preventing users from making errors, and (c) providing functions to make error recovery quick and simple.

In contrast, say we have data visualization software for physicists. Typical users may have (a) advanced degrees, (b) a large amount of computer experience, (c) very low turnover, and (d) ample opportunity for formal or informal

[1] Most of you will have probably heard the term "user friendly" with respect to how easy a program is to use. Computer professionals use the term "usability" instead. The topic of usability, including defining metrics, methods of testing, and so on, will be the topic of the next *Traveling in Cyberspace*.

training. We would characterize these users as "power" users, and therefore the design goals should be different than that of the telemarketing software. The goals for the power users might be (a) flexibility, (b) expanded functionality, and (c) the ability to tailor the program to the needs of the individual user.

Task Analysis

Once we have identified prospective users of the software we must identify the user's tasks. A thorough task analysis—an important tool in every I-O psychologists toolbox—is key to identifying what users do on the job. It provides designers with information on the structure of the tasks performed, their frequency of occurrence, their criticality to the job, as well as tools, documentation, and other work aids used on the job, all of which may be relevant to the interface's design (Craiger, 1999). This information may be gathered through interviews, or by observing users conducting tasks in their current work environment, which may or may not be done on a computer.

Information from a task analysis is used to define the types of functions found in the software, the logical workflow, the types of widgets used, the screen layout, and meaningful groupings of information. Designers have some flexibility in employing task analysis information. For example, designers may modify the workflow and work allocation due to the ability of the computer to perform tasks that were once performed manually by workers.

Conceptual and Mental Models

Once the prospective users and tasks are identified, the design team can commence the prototyping phase. A prototype is a simulation or mock-up composed of the features being considered for the final software design. Prototypes can be built on paper (a low-fidelity prototype), or in a high-level visual language such as Microsoft's Visual Basic (a high-fidelity prototype).

There are an infinite number of potential designs for a particular computer application. (If you don't believe this, think about the fact that almost all the things you can do in a GUI can be done with a command line interface. It was just a lot more difficult!). The overriding question for any decent UI designer is: What design will allow me to accomplish my design goals, whether to prevent errors, optimize speed of execution, ease of learning, or user satisfaction? Psychology provides a good answer to this question: Make the interface similar to something that users already know, understand, and are comfortable with. In design parlance, this means that the designer should produce a good "conceptual model" which maps to a user's existing "mental model."

An example of a good conceptual model is the wastebasket (the "trash can" in Apple's Macintosh, or the "recycle bin" in Microsoft Windows). We all have a preexisting mental model of a wastebasket. We know what a real, physical trash can looks like and the things we can do with it. We can throw unwanted items away; we can look in the trash can; if we throw an item in the trash can,

the item will remain there; if we throw away an item by accident, we can retrieve; and we can empty its contents permanently. This is the same way the "software" version of the wastebasket works. The first time you saw that little graphical trash can icon on the screen you probably figured it was for "throwing stuff away." It looked like a real wastebasket, and you probably assumed that it worked like the ones you use everyday.[2] You probably didn't have to be told how to use it because you already had a lot of experience with a real, physical wastebasket.

Another example of a good conceptual model is that used in Intuit's Quicken financial software application. The program serves as an "electronic checkbook" that allows users to print checks, pay bills electronically, track expenses and investments, and so forth. What type of conceptual model would be appropriate for this type of application? The obvious answer is the familiar physical checkbook! Quicken's interface is based on a checkbook analogy that looks and works like the paper checkbook, and has a check register that looks and works like a paper register. The first time I used Quicken I didn't have to be told *how* to use it because I already had a "checkbook mental model" from working with real checkbooks.

The key psychological principle here is that if a good conceptual model exists, one that graphically resembles and behaves like a physical, real-world object with which users are familiar, then use it. It will make the software easier to learn and remember, help prevent against errors, and make users more productive and more satisfied.

Cognition and Software Design

Working with a computer is an inherently cognitive task. Little manual labor is involved beyond typing and pointing with a mouse. Understanding and applying principles of human perception, attention, and cognition is critical to good software design.

We have already discussed one significant change in user interfaces based on what we know about cognition, the replacement of command line interfaces with GUIs. The primary reason for this change is a basic psychological fact: Humans are good at recognizing, and not so good are recalling information from long-term memory. An important interface design principle is that software designs should ensure that users aren't forced to remember something when you can provide users a way to recognize the same information.

Miller's (1956) classic paper proposed that humans are able to hold approximately seven—plus or minus two—chunks of information in working memory. The exact composition of a "chunk" of information is variable depending upon a number of factors, including its familiarity, meaningfulness, and our ability to associate it with something already in long-term memory.

[2] Space restrictions prevent me from discussing conceptual models that behave differently from users' existing mental models. An object may *look* the same, but it works differently. You can imagine the confusion and frustration that such conceptual models cause.

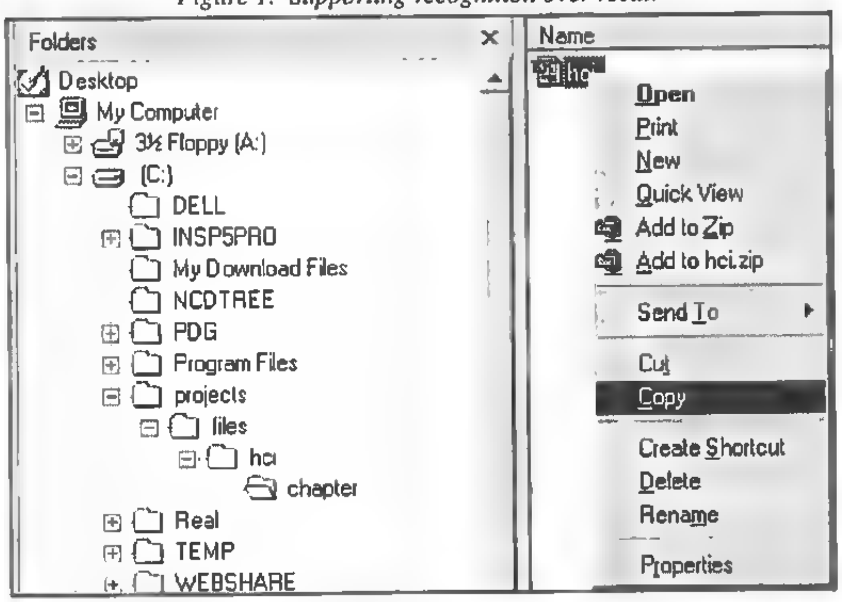
Now consider the old command line interfaces. Say you wanted to copy a file from one directory to another. A user might have to type something like the following command sequence in order to accomplish that task.

copy c:\projects\files\hci\chapter\hci.doc d:\files\uidesgn\jarticle

That's a lot of information. Remember that the only information visible to the user would be a command prompt (e.g., "C:\>"). There is no "visible" directory structure on the screen. To accomplish this simple task, the user would have to either (a) recall that command sequence from long-term memory (and it would be doubtful that it would be there), or (b) retain the sequence in working memory long enough to type the command (how many chunks are there?), or (c) write down the command sequence on paper and read it while typing. And I'm not even considering that the probability of a typing error rises as the length of the command sequence increases.

Command line interfaces, particularly for novice users, are exceedingly difficult to use and are error prone. The limits of human memory and performance are severely taxed with this type of task and interface. GUIs assist users by providing cognitive aids, such as "file managers" which provide visible cues that support recognition over recall. Figure 1 shows the visible directory structure in the Window's file manager that maps to the example above. Note that the user doesn't have to remember that long command sequence. The file managers allows me to recognize the information I need, to point at it with my mouse, and perform the copy (in several ways) all without forcing me to recall that information (or resort to writing everything down on a piece of paper).

Figure 1. Supporting recognition over recall



Perception and attention also play an important part in UI design. For example, color can be a good way to represent various types of information or states of the system. Interestingly, I have noticed that students in my human-computer interaction and user interface design classes really enjoy employing color in their programs. That can be a good thing, but it can also be bad if done inappropriately. Students are disposed to employ dramatic color schemes all over their interfaces, perhaps to provide a personal look-and-feel to their creation. However, too much color, or poorly chosen combinations of colors, can be distracting and confusing to users.

We can use color to assist in communicating information to users. For example, one often finds green is used to signify "go" or "Everything is A-OK," whereas red is used to signify "stop" or "danger," an obvious metaphor which draws on our familiarity with stop lights. The meaning of a particular color may also be context dependent. For example, red may also mean "hot," "anger," or "communist," depending upon the context (and perhaps the age of the user, especially for the last example).

Some color combinations are not compatible. For example, one visual no-no is blue on red, or vice versa, such as red text on a blue background (try this sometime, it makes for an interesting 3-D visual effect, but certainly not one you would want to see all day).

One should be cautious when using color in a user interface. For example, the same color may mean different things to different cultures, which will have implications for software designed for an international audience. For example, red in the Chinese culture means happiness or harmony, which is definitely not the same as danger or stop! Second, approximately 8 to 10% of men and a very small percentage of women are color-blind. Therefore, care should be taken when using color to represent crucial elements of information. Both of these examples indicate why it is important to identify users and understand user characteristics before undertaking design decisions.

Designing to support attention is important when users are under a time constraint to accomplish a task or when users are frequently interrupted. One means of supporting attention is through grouping of information. Associated information should be grouped in meaningful patterns, and these groupings should be physically separated using white space, "frames," or relegated to a separate window or dialog box. Of course, meaningfulness of groupings is determined through the detailed task analysis that was conducted prior to design.

Expert Versus Novice Users

The psychology of expertise has long been a topic of considerable import in psychology. It is important to support all types of users of the software, whether novice or expert. For example, the telemarketing and data visualization software described above were targeted at very different kinds of users. We expected the users of the telemarketing application to be novice users: They had

little prior computer experience or experience with similar applications, and received little or no formal training. We expected users of the data visualization software to be experts: They had significant prior computer experience and had ample formal and informal training. Given the homogeneity of the user groups, we would expect that the design of the telemarketing software to be markedly different than that of the data visualization software (besides the obvious difference in the purpose of the software).

Designing for homogenous populations of users is much easier than developing for a heterogeneous population of users. Consider for a moment an operating system, such as Apple Macintosh OS or Microsoft Windows. Who are the users of these systems? Just about everybody: novices, intermediates, and experts alike. As such, designers must account for the variability in computer expertise in their design. This is not an easy task, but there are certain standard means of supporting both novices and experts within a single software application. A good example is a menu. One finds menus on almost every application because they serve as a visible reminder of the available functions.

Using menus as an example, let's look at the ways a design can support both expert and novice users within a single software application. Say a user wants to print a document in a Windows-based work processor (this example also works for word processors for other operating systems, but the example differs slightly). A novice user of the word processor could explore the menu system with a mouse to find the Print menu entry under the File menu. To invoke the Print command with a mouse, the user would have to initiate the following action sequence: (a) stop typing, (b) home his/her hand to the mouse, (c) point to the File menu, (d) hold down the left mouse button, (e) point to the "Print" command, and (f) release the mouse button. On average, this action sequence would take approximately 2.8 seconds to execute[3].

Now let's see how the design supports expert users with keyboard shortcuts. A shortcut is a combination of keys, pressed simultaneously, that invokes a particular command. For example, typing "Control" and "S" invokes the Save command. Shortcuts allow expert users to bypass the menu system. (If a menu entry has an associated shortcut, it will be displayed to the far right of the entry on the menu.) The key combination for print is "Control-P." Typing Control-P has the same effect as using the mouse to select the Print menu entry from the File menu. However, the action sequence using shortcut keys would take .4 seconds to execute.[4] Obviously, shortcuts result in a significant savings in time and effort.

[3] Card, Moran, and Newell (1983) developed several engineering models of interaction that allow designers to predict the length of time necessary to execute a particular action sequence. Their keystroke-level model of interaction model would describe the action sequence as: Home hands to mouse (.4 seconds) + Point to file menu with mouse (1.1 seconds) + Hold left mouse button down (.1 seconds) + Point to print command (1.1 seconds) + Release mouse button (.1 seconds), for a total estimated time of 2.8 seconds.

[4] The predicted time, using the keystroke-level model of interaction would be: Type and hold Control Key (.2 seconds) + Type "P" (.2 seconds) = .4 seconds total. This estimate is for an average typist. Thus there is a time savings of 2.4 seconds.

There is a drawback, however. Users must remember the mappings between the various shortcuts (e.g., Control-C, Control-X, Control-S, Control-V, etc.) and the associated commands (Copy, Cut, Save, Paste, respectively), which challenges the principle of recognition over recall. But because expert users have a lot of experience with an application, we assume that; they have seen the shortcuts displayed on the menus, have used them, found them to be more efficient than using the menu, and transferred that knowledge to long-term memory

Conclusion

Hundreds of books have been written on the topics of user interface design, human-computer interaction, cognitive engineering, software engineering, visual design, icon design, and so forth. I hope that this edition of *Traveling in Cyberspace* has given you a flavor for the types of psychological issues that occur frequently in the design of software. There are hundreds and hundreds of more examples, but this will have to suffice for this brief column

My next *Traveling in Cyberspace* column will take up where this one left off. This concerns evaluating the usability of our designs. We have to ensure that the design decisions we made are sound, reasonable, and actually work with users. There are numerous methods of usability testing, some of which require real, live users, whereas others don't. Some are quick and cheap, whereas others are time-intensive and expensive. Above all, testing and evaluation is a critical part of the UI design lifecycle, and is becoming more and more important as a means of ensuring good software design.

Although space limitations prevent me from listing all of my favorite books on these topics, in the reference section I have included a few of my favorite user interface design and human-computer interaction books. There are academically and practitioner-oriented treatments, as well as textbooks and other references.

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Early Careers

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1999 SIOP Award Winners

Francis J. Yammarino
Chair, SIOP Awards Committee

The SIOP Awards Committee has completed its major work for the year—selecting the 1999 award winners! I would like to thank all the committee members (who were listed in a previous issue of *TIP*) for their hard work, and to acknowledge the extra efforts of three subcommittee chairs—**Talya Bauer** (Wallace subcommittee), **Michael Mumford** (Owens subcommittee), and **Lance Seberhagen** (Myers subcommittee)—as well as Lee Hakel and her staff at the SIOP Administrative Office, who made my job much easier.

On behalf of the SIOP Awards and Executive Committees, I am delighted and honored to present the 1999 SIOP Award Winners. These individuals and teams were recognized for their outstanding contributions to I-O psychology at the 1999 Annual Conference held in Atlanta, Georgia. Congratulations to all the following award winners!

Neal Schmitt
Distinguished Scientific Contributions Award

Dr. Neal Schmitt (Michigan State University) is recognized for the quality, breadth, and depth of his research in the areas of selection, applied decision making, and measurement. In addition to being among the most productive and influential scientists in our field, he has had an enduring influence on the development of young scientists. In many ways, Dr. Schmitt is the consummate scientist-practitioner.

Lowell Hellervik
Distinguished Professional Contributions Award

Dr. Lowell Hellervik (Personnel Decisions International) is recognized for helping to bring psychology to organizations and building PDI, thereby impacting many organizations. He has provided quality consulting work and professional growth opportunities for others, maintained close ties with and has supported academia, and made scientific contributions to the field himself and through others at PDI.

Richard Klimoski
Distinguished Service Contributions Award

Dr. Richard Klimoski (George Mason University) is recognized for his committed and distinguished service as member and chair of most SIOP committees, as an elected officer to several SIOP positions including President, as well as his involvement in APA, APS, and the Academy of Management. In all these roles, Dr. Klimoski has represented our profession most effectively.

William Macey
Distinguished Service Contributions Award

Dr. William Macey (Personnel Research Associates) is recognized for nearly 20 years of exemplary service to SIOP as a member and/or chair of many committees, elected officer, and a key organizer of the first SIOP Conference. More accurately stated, Dr. Macey has contributed to SIOP more than 20 years of service in fewer than 20 years. He is the very model for service to the Society, never asking for recognition or thanks, just seeking opportunities to serve SIOP.

Richard DeShon
Ernest J. McCormick Award for Distinguished Early Career Contributions

Dr. Richard DeShon (Michigan State University) is recognized for his research on individual differences and motivation affecting performance on complex tasks and for his numerous works on quantitative methods. His research innovatively addresses the understanding of issues central to performance and measurement. He received his Ph.D. from the University of Akron in 1993.

David Chan and Neal Schmitt
William A. Owens Scholarly Achievement Award

Dr. David Chan (National University of Singapore) and Dr. Neal Schmitt (Michigan State University) are recognized for their article, "Video-Based Versus Paper-and-Pencil Method of Assessment in Situational Judgment Tests: Subgroup Differences in Test Performance and Face Validity Perceptions," *Journal of Applied Psychology*, 1997, *83* (1), 143–159.

Peter Dorfman, Jon Howell, Shozo Hibino, Jin Lee, Uday Tate, and Arnoldo Bautista
William A. Owens Scholarly Achievement Award

Drs. Peter Dorfman (New Mexico State University), Jon Howell (New Mexico State University), Shozo Hibino (Chukyo University), Jin Lee (Korea University), Uday Tate (Southeastern Louisiana University), and Arnoldo Bautista (Rural Development Directorship) are recognized for their article, "Leadership in Western and Asian Countries: Commonalities and Differences in Effective Processes Across Cultures," *Leadership Quarterly*, 1997, *8* (3), 233–274.

Chris Hornick, Kathryn Fox, Ted Axton, Beverly Wyatt, and Therese Revitte
M. Scott Myers Award for Applied Research in the Workplace

Drs. Chris Hornick, Kathryn Fox, Ted Axton, Beverly Wyatt, and Therese Revitte (CWH Research) are recognized for their project, "Selection Solutions: Entry Level Fire Service Job Analysis Written Test Development and Validation Study."

Taly Dvir
S. Rains Wallace Dissertation Research Award

Dr. Taly Dvir (Tel Aviv University) is recognized for her dissertation, "Impact of Transformational Leadership Training on Follower Development and Performance: A Field Experiment." She received her Ph.D. from Tel Aviv University where **Dr. Dov Eden** (Tel Aviv University) and **Dr. Boas Shamir** (Hebrew University) served as co-chairs of her dissertation committee.

Chris Kubisiak, Mary Ann Hanson, and Daren Buck
John C. Flanagan Award for Outstanding Student Contribution to the SIOP Conference

Mr. Chris Kubisiak (Personnel Decisions Research Institutes and University of South Florida), student first author, and Dr. Mary Ann Hanson (Personnel Decisions Research Institutes), and Ms. Daren Buck (Personnel Decisions Research Institute and University of South Florida), co-authors, are recognized for their poster, "Person-Job Matching in the Context of Computerized Career Information Delivery."

Dana Milanovich and Elizabeth Muniz
Robert J. Wherry Award for the Best Paper at the I-O/OB Conference

Ms. Dana Milanovich and Ms. Elizabeth Muniz (Naval Air Warfare Center Training Systems Division) are recognized for their paper, "Team Derailment: An Initial Examination."

The Ad Hoc Committee on Ethnic Minority Affairs: Better Known as CEMA

Beth Chung
Chair of CEMA/Cornell University

The 1999 SIOP Conference has ended, but one of the exciting developments for the Ad Hoc Committee on Ethnic Minority Affairs (CEMA) is that we will now have a regular column in *TIP*. The purpose of this column is to disseminate information regarding CEMA activities and will replace the "The Network," a quarterly newsletter that was started earlier this year. This column will be written and edited by **Denise Bane** (Baruch College/CUNY). If you have information that you would like included in the next CEMA *TIP* column, e-mail Denise at Denise-Bane@worldnet.att.net or call (212) 802–6988.

First, I thought it might be important to provide some historical information on CEMA for those that are unfamiliar with this ad hoc committee. CEMA arose out of a roundtable hosted by **Jim Outtz** and myself at the 1996 SIOP conference. We wanted to continue the work previously done by a task force on Ethnic Minority Participation, co-chaired by **Loriann Roberson** and **Jeff McHenry**, that lasted from approximately 1991 to 1995. CEMA has been an ad hoc SIOP committee for 2 years now.

CEMA's primary goal is to attract, retain, and integrate ethnic minorities into SIOP. To learn more about CEMA, visit our web site at http://carbon.cudenver.edu/~haguinis/cema.htm or access it through the SIOP web page at http://www.siop.org. Many exciting things are happening as a result of the committee's work:

1. CEMA has a discussion group on the Internet. This listserv is a forum for discussion, exchange of ideas, posting of job opportunities, collaboration efforts, etc. Currently, there are 52 subscribers. You can be a member of this group by sending the following one-line message to listserv@lists.cudenver.edu: SUBSCRIBE CEMA [your name].

2. A directory of individuals interested in CEMA activities has been created. This directory of 80+ individuals is used as our primary mailing list. If you would like to be in this directory, please e-mail **Crissie Frye** at Cmfrye@aol.com. This coming year, **Quinetta Roberson** will be supplementing the directory with additional information such as current profession, areas of expertise, interests, year since graduation, etc. This additional information will help foster networking and collaboration.

3. CEMA distributed a survey in 1996-1997 asking ethnic minorities to rank their priorities for CEMA. As a result of this survey, three task forces were formed: mentoring, networking, and increased SIOP representation.

- The mentoring program is underway with Jim Outtz heading this task force. He has secured a list of mentors and is seeking ethnic minority proteges. Currently we are seeking proteges who have either already graduated or are very advanced in their Ph.D. program. Please contact Jim Outtz at jlouttz@aol.com if you are interested in having a mentor.
- In addition to editing this column, the networking task force is also busily working on initiatives for the coming year. Watch for new developments in the next *TIP*.
- In terms of increasing minority representation at SIOP, one of the first things you can do is volunteer to be on committees. In fact, there are currently openings available on the membership committee. You can join this committee or other committees by filling out a volunteer form. The forms can be found in this issue of *TIP* and can also be obtained by contacting the SIOP administrative office (information printed in front cover). Certain committees have specific requirements due to the nature of the committee. For example, in order to join the membership committee, you must have graduated at least 2 years ago. All SIOP committees require that you are a member of SIOP. Students, don't fret, you too can help. You can volunteer to help with registration and other important duties. Contact the SIOP Administrative Office for more information.

I would like to acknowledge all the people who have helped CEMA to grow in the last few years. First, I would like to thank all the committee members who have worked hard to keep this committee alive: **Dana McDonald-Mann, Jim Outtz, Herman Aguinis,** and **Bob Ramos**. I would also like to thank everyone who has headed and worked on task forces as well as Crissie Frye, CEMA's secretary. Your hard work and continued enthusiasm are greatly appreciated.

This is a very exciting year for CEMA and we hope that you will participate in our activities. CEMA is for everyone and anyone interested in ethnic minority affairs. E-mail or call me at bgc4@cornell.edu or (607) 255–5383; or Dana McDonald-Mann at mcdonaldd@leaders.ccl.org, or (336) 286–4461 with any questions.

Proposed SIOP Bylaws Amendment

Janet L. Barnes-Farrell
Secretary

The Executive Committee has recommended that an amendment be made to the Bylaws to reflect a change in committee structure.

SIOP Bylaws call for an announcement of proposed changes at least 2 months prior to the actual voting (See Article IX, "Amendments"). Voting on the proposed changes will take place in the Fall of 1999. Mail ballots will be sent to all Society Members. A majority vote of those voting by mail are required to adopt any amendments.

Amendment: Article VII: COMMITTEES

1. The standing committees of the Society shall consist of the following: Fellowship, Membership, Election, Program, Scientific Affairs, Professional Practice, Education and Training, Newsletter, Continuing Education and Workshop, ~~Committee on Committees~~, Long Range Planning, State Affairs, Awards, Frontiers Series, Practice Series, Society Conference, Historian, and Foundation. In addition, ad hoc committees may be established by vote of the Society Members or by the Executive Committee to perform tasks of a brief or temporary nature.

12. The Committee on Committees shall recommend appointments to all other standing committees to the incoming President. The Committee shall be appointed by the President-Elect, and shall make a special effort to see that each year some Society Members who have not served in the past are appointed to standing committees. The Committee on Committees shall also be responsible for identifying Society Members to be nominated or appointed to other relevant societies' Boards and Committees (e.g., APA, APS).

Subparagraphs 13 and following of Article VII will be reordered to reflect these changes.

Rationale: Based upon the recommendation of the Long Range Planning Committee, the Executive Committee voted in January, 1999, to discontinue the Committee on Committees. In the future, Committee Chairs will be charged with the responsibility for ensuring diversity in committee representation, and the Past President will be assigned oversight responsibility.

APA Council of Representatives

Wayne J. Camara
The College Board

The APA Council of Representatives had their semi-annual meeting on February 19–21 in Washington, D.C. This year, SIOP has two additional representatives, **Neal Schmitt** and **Mary Tenopyr**, joining continuing reps **Georgia Chao** and **Wayne Camara**. This year, APA's Council had about 40 additional members, swelling to 162 representatives, based on a reapportionment that ensured all divisions and states would have at least one representative.

The budget and financial issues consumed much of the discussion at this meeting. APA's second building, 10 G Place, is over 90% leased, with Amtrak occupying about 35% of the space, and the association will not occupy any space itself in this building. The property should be 100% leased in the next month. What is commonly referred to as the APA Building, is the G Street property (750 First St.), directly in back of the newer 10 G Place Building. Together, APA has bond issues totaling 107 million on the two buildings ($59 million on 750 First St., and $48 million on 10 G). These bonds are paid at a rate of 7.605% and have 17 years remaining.

Buildings

During the last several years, APA has purposely operated on a deficit budget, relying on revenue from the building to support some level of operations that annual revenue could not support. The Finance Committee recommended that APA reduce its dependency on the building subsidy of operations to $900,000 this year, $800,000 in 2000–01 and $700,000 in 2001–2. The Board of Directors, citing current needs of the association, recommended a larder subsidy of up to $1 million each year. Council voted to limit the subsidy to $1 million this year and to defer action on future years. Council passed a final budget with a net deficit (after the building subsidy) of $78,100 for this year.

Budget

One source of strain on funds have been the "aging of APA members." APA currently has approximately 6,200 dues-exempt members, but projections show that number climbing to 10,000 in 2001 and 24,000 by 2013. Revenue from journal subscriptions has actually declined since 1996, however APA's new electronic products and licensing fees have made up the cost differential. However, total publication revenues are fairly stagnant and additional R&D funds have been required to generate the electronic products. Member dues and fees account for 15% of the total budget. APA dues are $215 with a $45 journal credit. APA has 470 staff but an additional 110 vacant positions. Staff report

that the tightening labor market has hurt their recruitment efforts and all units of APA have positions that have been difficult to fill.

Managed Care

The last few issues of the *APA Monitor* have highlighted the increased consequences of managed care in the provision of mental health services and this issue also consumed much debate and discussion. Council passed a resolution declaring the changing health care system's impact on psychology and the public to be a priority issue for the entire association. The Practice Directorate has supported three test cases challenging managed care procedures in three states and anticipates further legal activity. A survey of licensed practitioners revealed the greatest concerns with managed care are:

1. Changing quality of clinical practice	57.0%
2. Excessive precertification requirements by managed care panels	48.9%
3. Income decreased due to fee structure	48.3%
4. Ethical dilemmas created by managed care	42.1%
5. Fewer clients due to managed care	39.9%

Managed care plans covered over 81% of employees with employer-sponsored health coverage in 1997, compared to 74% in 1996 and just 29% in 1988. In the past 10 years, the value of general health care benefit costs has declined by 7% while the value of behavioral health care benefits has declined by 50% (Hay Group, 1998).

APA Status as a 501 (c) 3

For many years, the APA Board of Directors and Committee for the Advancement of Professional Practice have discussed the need to assure that APA can meet the growing need for advocacy, and other support, to professional psychology. APA has been exploring options such as a change in APA tax structure that would reduce some of the restrictions under which we currently operate.

APA is exempt from federal taxation as a charitable organization under section 501 (c) 3 of the IRS code. Because of this, it is limited by law to expending no more than $1 million for legislative advocacy in any 1 year. As APA grows closer to that limitation, the Board of Directors is exploring the possibility of establishing a companion organization that would be exempt from tax under section 501 (c) 6 of the IRS code. The companion organization, while closely associated with APA and with shared leadership, would have more freedom to meet anticipated future needs. Such an organization would be free of the restraint on legislative advocacy.

There is no plan to divide APA into constituencies or to separate the practice of psychology from other aspects of psychology. To the contrary, the intent

is to permit all of APA to operate efficiently and effectively. SIOP council representatives will continue to monitor this issue and advise the Executive Committee on APA plans and its potential impact on us.

Other Items

- APA approved three new divisions: Clinical Child Psychology, Society of Pediatric Psychology, and International Psychology.
- Council passed resolutions on reducing the stigma and discrimination toward people with serious mental illnesses and severe emotional disturbances, reaffirming support of affirmative action, and addressing male violence against women.
- Council deferred action on a proposal to recommend that state licensing boards in psychology consider creating a provisional license for new doctoral psychologists while completing their first year of supervised post-doctoral experience.

Council will meet next on August 19, 1999 at the APA Convention in Boston. Reminder to all SIOP members planning to attend the APA convention—Boston has limited hotel capacity and members should submit their housing requests immediately

Frontiers Series Committee Report and Request for Proposals

Neal Schmitt
Michigan State University/Aon Consulting

The Frontiers Series was established by SIOP in 1982 to publish a series of volumes, each devoted to a single topic considered to be of major contemporary significance to our field. It is intended that each volume represent a summary of forward-thinking theory, research, and practice in the particular topic area. Individuals doing pioneer work in the area contribute each chapter in these volumes. The Frontiers Committee members are charged with working with editors to develop each volume, making suggestions and choices regarding the topics covered and the authors of the chapters. The current committee consists of **Angelo DeNisi**, **Richard Klimoski**, **Robert Dipboye**, **Cheri Ostroff**, and **Neal Schmitt** (Chair). **Ruth Kanfer** and **Susan Jackson** have just completed 3 years on the Frontiers Committee and we will be replacing them within the next month. Their participation in the committee was valuable, welcome, and very much appreciated.

Jossey-Bass is the publisher of the Frontiers Series. At the recent SIOP Conference in Atlanta, they made available the most recent volume in the Frontiers Series edited by **Daniel Ilgen** and **Elaine Pulakos** entitled *The Changing Nature of Work Performance*. Several other volumes are currently being written and produced. **Barry Gerhart** and **Sara Rynes** are editing a volume entitled *Compensation*; **Katherine Klein** and **Steve Kozlowski** are working on a book entitled *Levels of Analysis in I/O Psychology*; Richard Klimoski and Steve **Zaccaro** are beginning a volume on *Executive Leadership*. The production of a volume by **Fritz Drasgow** and Neal Schmitt entitled *Advances in Measurement and Data Analysis* was approved by the editorial board at its meeting in Atlanta.

We are currently considering proposals for several other topics as well. However, one reason for writing this report is to encourage members to consider writing proposals to address new topics of importance to scientific research and practice in our field. If you are involved in an area of research about which you feel other members of the professional and scientific community should have a heightened awareness and that an integrated set of papers would further our understanding of this topic area, please consider writing a proposal. If you want to discuss this potential topic or the way in which a proposal should be presented, please feel free to call on any member of the Frontiers Committee. We welcome ideas for new volumes even if you are not personally interested in leading an effort to produce a volume.

Report on the Fourteenth Annual Industrial-Organizational Psychology Doctoral Consortium

Lyse Wells
Conexant

Michelle Marks
Florida International University

The Fourteenth Annual I-O Doctoral Consortium was held on Thursday, April 29, 1999, preceding the SIOP Annual Conference in Atlanta. It was our pleasure to host 40 advanced students from 40 different programs. The students met their peers from other programs and received helpful advice from speakers who represented all of the possible professional avenues available within I-O psychology.

Our day began at 8:30 a.m. and ended at 4:30 p.m. First, the group started with a mixer related to the common graduate school experience. Then **Ben Schneider** discussed research on Attraction-Selection-Attrition and how this phenomenon impacts organizations. Next, we held concurrent sessions. **Neil Anderson** held a very active session on personal strategies for publishing in I-O psychology. Concurrently, **Carla Shull** shared the realities of life in a consulting firm. After lunch, **Anna Marie Valerio** gave a presentation on the realities of work as an internal consultant in a corporate setting complete with fun video clips. For the first time this year we had a roundtable discussion where each of the speakers hosted a small group discussion on a topic. This allowed even more personal interaction with a presenter on a topic that fit the student's interest. The afternoon concurrent sessions featured team researchers. **John Mathieu** and **Steve Zaccaro** discussed team research, and **Deniz Ones** and **Chockalingam (Vish) Viswesvaran** shared the research they have done together on integrity testing. Finally, the day ended with a question-and-answer session designed to address the students' interests and concerns about careers in I-O psychology.

Overall, not only were the attendees able to get insights about careers in I-O from prominent figures in the field, but they were also able to make new professional contacts and develop new friendships (we ate very well too). Finally, we would like to thank all of the presenters who graciously volunteered their time, insights, and energy to make this year's consortium a success. A special thanks goes to Ben Schneider for delivering a great talk with short notice. We also want to thank Lee Hakel and the SIOP Administrative Office, **Debra Major** and **Ron Johnson** for their help throughout the planning process.

Call for Fellowship Nominations

William H. Macey
Personnel Research Associates, Inc.

Each year, the Fellowship Committee requests and evaluates nominations to the status of Fellow those Society members who have made unusual and outstanding contributions to the field. Nominations are sought of individuals from all areas of endeavor within our profession. Nominations are encouraged for members who have had an impact on the profession in their practice and application of psychology as well as those who have made their contribution through research.

Detailed criteria considered by the Fellowship Committee were published in TIP, April 1994, pp.31–34. General criteria are summarized below:

Criteria:

- Society membership for no less than 2 years at the time of election.
- Nomination by either a Member or Fellow of the Society.
- Submission of a letter of nomination and a completed APA Uniform Fellow Application Form.
- Three or more letters of recommendation, at least two of which must be from SIOP Fellows.
- Should the nominee be elected to SIOP Fellowship, he or she is then typically submitted for consideration as a Fellow in APA and/or APS. If the SIOP nominee is also to be nominated for APA fellowship, three of the original letters of endorsement must come from Fellows of APA. If the SIOP nominee is to be nominated for APS fellowship, at least one of the original letters must come from a Fellow of APS.

Due Date: November 16, 1999.

Request Nomination Materials and Direct Questions to:

William H. Macey
Chair, SIOP Fellowship Committee
Personnel Research Associates, Inc.
657 E. Golf Road, Suite 306
Arlington Heights, IL 60005

Phone: (847) 640–8820
Fax: (847) 640–8830
Email: wmacey@pra-inc.com

Call for Nominations and Entries: 2000 Awards for the Society for Industrial and Organizational Psychology

Distinguished Professional Contributions Award
Distinguished Scientific Contributions Award
Distinguished Service Contributions Award
Ernest J. McCormick Award for Distinguished Early Career Contributions
Edwin E. Ghiselli Award for Research Design
S. Rains Wallace Dissertation Award
William A. Owens Scholarly Achievement Award
M. Scott Myers Award for Applied Research in the Workplace

Deadline: September 15, 1999

Send nominations and entries for all awards to:

Francis J. Yammarino
Chair, SIOP Awards Committee
School of Management/Center for Leadership Studies
State University of New York at Binghamton
Binghamton, NY 13902–6015
Phone: (607) 777–6066
Fax: (607) 777–4422
E-mail: fjyammo@binghamton.edu

Nomination Guidelines and Criteria

Distinguished Professional Contributions, Distinguished Scientific Contributions, Distinguished Service Contributions, and the Ernest J. McCormick Early Career Contributions Awards

1. Nominations may be submitted by any member of SIOP, APA, APS, or by any person who is sponsored by a member of one of these organizations.

2. Only members of SIOP may be nominated for the award.

3. A current vita of the nominee should accompany the letter of nomination. In addition, the nominator should include materials that illustrate the contributions of the nominee. Supporting letters may be included as part of the nomination packet. The number of supporting letters for any given nomination should be between a minimum of three and a maximum of five.

4. Nominees who are non-recipients of the Distinguished Scientific Contributions Award, Distinguished Professional Contributions Award, and Distinguished Service Contributions Award will be reconsidered annually for 3 years after their initial nomination.

5. Letters of nomination, vita, and all supporting letters (including at least three and no more than five) or materials must be received by September 15, 1999.

Administrative Procedures

1. The SIOP Awards Committee will review the letters of nomination and all supporting materials of all nominees and make a recommendation concerning one or more nominees to the Executive Committee of SIOP. Two or more nominees may be selected if their contributions are similarly distinguished.

2. The Executive Committee may either endorse or reject the recommendations of the Awards Committee, but may not substitute a nominee of its own.

3. In the absence of a nominee who is deemed deserving of the award by both the Awards Committee and the Executive Committee, the award may be withheld.

Distinguished Professional Contributions Award

In Recognition of Outstanding Contributions to the Practice of Industrial and Organizational Psychology

The award is given to an individual who has developed, refined, and implemented practices, procedures, and methods that have had a major impact on both people in organizational settings and the profession of I-O psychology. The contributions of the individual should have advanced the profession by increasing the effectiveness of I-O psychologists working in business, industry, government, and other organizational settings.

The recipient of the award is given a plaque and a cash prize of $1,000. In addition, the recipient is invited to give an address related to his or her contributions at the subsequent meeting of SIOP.

Criteria for the Award

The letter of nomination should address the following points:

1. The general nature of the nominee's contributions to the practice of I-O psychology.

2. The contributions that the nominee has made to either (a) the development of practices, procedures, and methods, or (b) the implementation of practices, procedures, and methods. If appropriate, contributions of both types should be noted.

3. If relevant, the extent to which there is scientifically sound evidence to support the effectiveness of the relevant practices, procedures, and methods of the nominee.

4. The impact of the nominee's contributions on the practice of I-O psychology.

5. The stature of the nominee as a practitioner vis-à-vis other prominent practitioners in the field of I-O psychology.

6. The evidence or documentation that is available to support the contributions of the nominee. Nominators should provide more than mere testimonials about the impact of a nominee's professional contributions.

7. The extent to which the nominee has disseminated information about his or her methods, procedures, and practices through publications, presentations, workshops, and so forth. The methods, procedures, and practices must be both available to and utilized by other practicing I-O psychologists.

8. The organizational setting(s) of the nominee's work (industry, government, academia, etc.) will not be a factor in selecting a winner of the award.

Distinguished Scientific Contributions Award

In Recognition of Outstanding Contributions to the Science of Industrial and Organizational Psychology

This award is given to the individual who has made the most distinguished empirical and/or theoretical scientific contributions to the field of I-O psychology. The setting in which the nominee made the contributions (i.e., industry, academia, government) is not relevant.

The recipient of the award is given a plaque and a cash prize of $1,000. In addition, the recipient if invited to give an address at the subequent meeting of SIOP that relates to his or her contributions.

Criteria for the Award

The letter of nomination should address the following issues:

1. The general nature of the nominee's scientific contributions.
2. The most important theoretical and/or empirical contributions.
3. The impact of the nominee's contributions on the science of I-O psychology, including the impact that the work has had on the work of students and colleagues.
4. The stature of the nominee as a scientist vis-à-vis other prominent scientists in the field of I-O psychology.

Distinguished Service Contributions Award

In Recognition of Sustained, Significant, and Outstanding Service to SIOP

This award is given for sustained, significant, and outstanding service to SIOP. Service contributions can be made in a variety of ways which include but are not limited to serving as (a) an elected officer of the Society, (b) the chair of a standing or ad hoc committee of the Society, (c) a member of a standing or ad hoc committee of the Society, and (d) a formal representative of the Society to other organizations. The recipient is given a plaque and a cash prize of $1,000.

Criteria for the Award

The letter of nomination should address the nature and quality of the nominee's service contributions. A detailed history of the individual's service-oriented con-

tributions should be provided. It should specify (a) the offices held by the nominee, (b) the duration of his or her service in each such office, and (c) the significant achievements of the nominee while an incumbent in each office.

Ernest J. McCormick Award for Distinguished Early Career Contributions

In Recognition of Distinguished Early Career Contributions to the Science or Practice of Industrial and Organizational Psychology

This annual award, honoring Ernest J. McCormick, is given to the individual who has made the most distinguished contributions to the science and/or practice of I-O psychology within 7 years of receiving the Ph.D. degree. In order to be considered for the 2000 Award, nominees must have defended their dissertations no earlier than 1993. The setting in which the nominee has made the contributions (i.e., academia, government, industry) is not relevant.

The recipient of the award is given a plaque and a cash prize of $1,000. In addition, the recipient is invited to give an address at the subsequent meeting of SIOP that relates to his or her contributions.

Criteria for the Award

The letter of nomination should address the following issues:

1. The general nature of the nominee's contributions to science and/or practice.
2. The most important contributions to science and/or practice.
3. The impact of the nominee's contribution on the science and/or practice of I-O psychology, including the impact that the work has had on the work of students and colleagues.
4. The status of the nominee as a scientist and/or practitioner vis-a-vis other prominent scientists and/or practitioners in the field of I-O psychology.
5. While the number of publications is an important consideration, it is not the only one. An equally important criteria is the quality of the publications and their impact on the field of I-O psychology,

Documentation should be provided that indicates that the nominee received his or her Ph.D. degree no earlier than 1993.

Edwin E. Ghiselli Award for Research Design

In Recognition of the Research Proposal that Best Shows the Use of Scientific Methods in the Study of a Phenomenon that is Relevant to the Field of Industrial and Organizational Psychology

This annual award, honoring Edwin E. Ghiselli, is given to the author(s) of the best research proposal in which scientific methods are used to study a phenomenon of relevance to the field of I-O psychology. The proposal should demonstrate the use of research methods that are rigorous, creative, and highly appro-

priate to the study of the phenomenon that is the focus of the proposed research. The proposal should cover research that is at either the design stage or is in very early stages of pilot-testing. Proposals covering completed research should not be submitted.

The author(s) of the best proposal is (are) awarded a plaque, a $1,000 cash prize, and the opportunity to present their proposal in a poster session at the meeting of SIOP. In addition, the Scientific Affairs Committee of SIOP will assist the winner in both obtaining funding and locating sites for the conduct of the proposed research. This offer of assistance, however, does not obligate the award winner(s) to actually perform the proposed research.

If more than one outstanding research proposal is submitted for review, the Awards Committee may recommend that an otherwise outstanding, but not a winning, proposal be awarded honorable mention status.

Criteria for Evaluation of Proposals

Research proposals will be evaluated in terms of the following criteria:

1. The degree to which the proposed research addresses a phenomenon that is of significance to the field of I-O psychology.
2. The extent to which the proposal shows appropriate consideration of the relevant theoretical and empirical literature.
3. The degree to which the proposed research will produce findings that have high levels of validity (i.e., internal, external, construct, and statistical conclusion). The setting of the proposed research is of lesser importance than the capacity of the study to produce highly valid conclusions about a real-world phenomenon of relevance to the field of I-O psychology. The methods of the proposed research (including subjects, procedures, measures, manipulations, and data analytic strategies) should be specified in sufficient detail to allow for an assessment of the capacity of the proposed research to yield valid inferences
4. The extent to which the proposed research is actually capable of being conducted.
5. The degree to which the proposed research, regardless of its outcomes, will produce information that is of both practical and theoretical in relevance.
6. The extent to which ideas in the proposal are logically, succinctly, and clearly presented.
7. The degree to which the proposal provides for the appropriate coverage and consideration of (a) research objectives, (b) relevant theoretical and empirical literature, and (c) research methods. Note that a budget for the proposed research should not be submitted.

Guidelines for Submission of Proposal

1. Proposals may be submitted by any member of SIOP, APS, APA, or by any person who is sponsored by a member of one of these organizations.
2. Proposals having multiple authors are acceptable.

3. Proposals are limited to 30 double-spaced pages. This limit includes the title page, abstract, tables, figures, and so fot. However it excludes references.
4. Proposals should be prepared in accord with the guidelines provided in the fourth edition of the *Publication Manual of the American Psychological Association*. Note, however, that the abstract may contain up to 300 words.
5. Ten copies of each proposal should be submitted. The name of the author, affiliation (academic institution, business firm, or government agency), and phone number should appear only on the title page of the proposal.
6. No award-winning proposal (actual winner or honorable mention) may be resubmitted for review. However, non-winning entries that were submitted in previous years may be resubmitted.
7. Individuals who have previously won the award are eligible to submit proposals covering research other than that covered in their award winning proposal(s). However, to win an award a third time, the author must show evidence of having completed at least one of the two previously proposed studies.
8. Proposals must be received by September 15, 1999.

Administrative Procedures

1. Proposals will be reviewed by the Awards Committee of SIOP.
2. The Awards Committee will make a recommendation to the Executive Committee of SIOP about the award winning proposal and, if appropriate, a proposal deserving honorable mention status.
3. The Executive Committee may either endorse or reject the recommendations of the Awards Committee, but may not substitute a nominee of its own.
4. In the absence of a proposal that is deemed deserving of the award by both the Awards Committee and the Executive Committee, the award may be withheld.

S. Rains Wallace Dissertation Research Award

In Recognition of the Best Doctoral Dissertation Research in the Field of Industrial and Organizational Psychology

This annual award, honoring S. Rains Wallace, is given to the person who completes the best doctoral dissertation research germane to the field of I-O psychology. The winning dissertation research should demonstrate the use of research methods that are both rigorous and creative. The winner of the award will receive a plaque, a cash prize of $1,000, and the opportunity to present their dissertation research in a poster session at the meeting of SIOP.

Criteria for Evaluation and Submissions

Dissertation summaries will be evaluated in terms of the following criteria:

1. The degree to which the research addresses a phenomenon that is of significance to the field of I-O psychology.

2. The extent to which the research shows appropriate consideration of relevant theoretical and empirical literature. This should be reflected in both the formulation of hypotheses tested and the selection of methods used in their testing.

3. The degree to which the research has produced findings that have high levels of validity (i.e., internal, external, construct, and statistical conclusion). The setting of the proposed research is of lesser importance than its ability to yield highly valid conclusions about a real-world phenomenon of relevance to the field of I-O psychology. Thus, the methods of the research (including subjects, procedures, measures, manipulations, and data analytic strategies) should be specified in sufficient detail to allow for an assessment of the capacity of the proposed research to yield valid inferences.

4. The extent to which the author (a) offers reasonable interpretations of the results of his or her research, (b) draws appropriate inferences about the theoretical and applied implications of the same results, and (c) suggests promising directions for future research.

5. The degree to which the research yields information that is of both practically and theoretically relevant and important.

6. The extent to which ideas in the proposal are logically, succinctly, and clearly presented.

Guidelines for Submission of Proposal

1. Entries may be submitted only by individuals who are endorsed (sponsored) by a member of SIOP, APS, or APA.

2. Each entrant should submit 10 copies of their paper (not to exceed 30 pages of double-spaced text) based on his or her dissertation. The name of the entrant, institutional affiliation, current mailing address, and phone number should appear only on the title page of the paper.

3. Papers are limited to a maximum of 30 double-spaced pages. This limit includes the title page, abstract, and text. Tables, figures, references, and appendices are not included in the 30-page limit.

4. Papers should be prepared in accord with the guidelines provided in the fourth edition of the *Publication Manual of the American Psychological Association*. Note, however, that the abstract may contain up to 300 words.

5. The paper must be based on a dissertation that was accepted by the graduate college 2 years or less before September 15, 1999, with the stipulation than an entrant may only submit once.

6. The entrant must provide a letter from his or her dissertation chair that specifies the date of acceptance of the dissertation by the graduate school of the institution and that the submission adequately represents all aspects of the completed dissertation. In addition, the entrant must provide a letter of endorsement from a member of SIOP, APS, or APA who is familiar with the entrant's dissertation. Both of these letters may be from the same individual.

7. Entries (accompanied by supporting letters) must be received by September 15, 1999.

Administrative Procedures

1. All entries will be reviewed by the Awards Committee of SIOP.

2. The Awards Committee will make a recommendation to the Executive Committee of SIOP about the award winning dissertation and, if appropriate, up to two dissertations deserving honorable mention status.

3. The Executive Committee may either endorse or reject the recommendations of the Awards Committee, but may not substitute recommendations of its own.

4. In the absence of a dissertation that is deemed deserving of the award by both the Awards Committee and the Executive Committee, the award may be withheld.

William A. Owens Scholarly Achievement Award

In Recognition of the Best Publication (Appearing in a Refereed Journal) in the Field of Industrial-Organizational Psychology During the Past Full Year (1998)

This annual award, honoring William A. Owens, is given to the author(s) of the publication in a refereed journal judged to have the highest potential to significantly impact the field of I-O psychology. There is no restriction on the specific journals in which the publication appears, only that the journal be refereed and that the publication concerns a topic of relevance to the field of I-O psychology. Only publications with a 1998 publication date will be considered.

The author(s) of the best publication is (are) awarded a plaque and a $1,000 cash prize (to be split in the case of multiple authors).

Criteria for Evaluation of Publications

Publications will be evaluated in terms of the following criteria:

1. The degree to which the research addresses a phenomenon that is of significance to the field of I-O psychology.

2. The potential impact or significance of the publication to the field of I-O psychology.

3. The degree to which the research displays technical adequacy, including issues of internal validity, external validity, appropriate methodology, appropriate statistical analysis, comprehensiveness of review (if the publication is a literature review), and so forth.

Guidelines for Submission of Publications

1. Publications may be submitted by any member of SIOP, APS, APA or by any person who is sponsored by a member of one of these organizations. Self- and other- nominations are welcome. The Owens Award subcomittee may also

generate nominations. Those evaluating the publications will be blind to the source of the nomination.

2. Publications having multiple authors are acceptable.
3. Ten copies of each publication should be submitted.
4. Publications must be received by September 15, 1999.

Administrative Procedures

1. Publications will be reviewed by a subcomittee of the Awards Committee of SIOP, consisting of at least six members.

2. The Awards Committee will make a recommendation to the Executive Committee of SIOP about the award winning publication and, if appropriate, a publication deserving honorable mention status.

3. The Executive Committee may either endorse or reject the recommendations of the Awards Committee, but may not substitute a nominee of its own.

4. In the absence of a publication that is deemed deserving of the award by both the Awards Committee and the Executive Committee, the award may be withheld.

M. Scott Myers Award for Applied Research in the Workplace

In Recognition of a Project or Product Representing an Outstanding Example of the Practice of Industrial and Organizational Psychology in the Workplace

This annual award, honoring M. Scott Myers, will be given to an individual practitioner or team of practitioners who have developed and conducted/applied a *specific* project or product representing an example of outstanding practice of I-O psychology in the workplace (i.e., business, industry, government). Projects must have been conducted in the workplace within the last 40 years and cover a time period of no more than 8 years. Products (e.g., tests, questionnaires, videos, software, but *not* books or articles) must be used in the workplace and developed within the last 40 years. Projects or products may be in any area of I-O psychology (e.g., compensation, employee relations, equal employment opportunity, human factors, job analysis, job design, organizational development, organizational behavior, leadership, position classification, safety, selection, training).

The award recipient(s) will receive a plaque commemorating the achievement, a cash prize of $1,000, and an invitation to make a presentation at the Annual Conference of SIOP. Team awards will be shared among the members of the team.

Criteria for Evaluation of Projects or Products

Nominations will be evaluated on the extent to which they:

1. Have a sound technical/scientific basis.
2. Advance objectives of clients/users.

3. Promote full use of human potential.
4. Comply with applicable psychological, legal, and ethical standards.
5. Improve the acceptance of I-O psychology in the workplace.
6. Show innovation and excellence.

Guidelines for Submission of Projects or Products

1. Nominations may be submitted by any member of SIOP. Self-nominations are welcome.

2. Individuals or teams may be nominated. Each individual nominee must be a current member of the Society. If a team is nominated, at least one of the team members must be a current member of the Society, and each team member must have made a significant contribution to the project or product. No one person may be nominated (as an individual and/or team member) for more than one project or product in any given year.

3. Each nomination package must contain the following information:

(a) A letter of nomination which explains how the project or product meets the six evaluation criteria above.

(b) A technical report which describes the project or product in detail. This may be an existing report.

(c) A description of any formal complaints of a legal or ethical nature which have been made regarding the project or product.

(d) A list of three client references who may be contacted by the Myers Award subcommittee regarding the project or product.

(e) (Optional) Any other documentation which may be helpful for evaluating the nomination (e.g., a sample of the product, technical manuals, independent evaluations).

4. *Five* copies of all nomination materials should be submitted. The Awards Committee will maintain the confidentiality of secure materials.

Administrative Procedures

1. Nomination materials will be reviewed by a subcommittee of SIOP Awards Committee, consisting of at least three members, all of whom work primarily as I-O practitioners.

2. The Awards Committee will make a recommendation to SIOP Executive Committee about the award-winning project or product.

3. The Executive Committee may either accept or reject the recommendation of the Awards Committee, but may not substitute a nominee of its own.

4. In the absence of a nominee that is deemed deserving of the award by both the Awards Committee and the Executive Committee, the award may be withheld.

Past SIOP Award Recipients

Listed below are past SIOP award recipients as well as SIOP members who have received APA, APF, or APS awards.

Distinguished Professional Contributions Award

1977 Douglas W. Bray
1978 Melvin Sorcher
1979 Award withheld
1980 Award withheld
1981 Carl F. Frost
1982 John Flanagan
1983 Edwin Fleishman
1984 Mary L. Tenopyr
1985 Delmar L. Landen
1986 Paul W.Thayer
1987 Paul Sparks
1988 Herbert H. Meyer
1989 William C. Byham
1990 P. Richard Jeanneret
1991 Charles H. Lawshe
1992 Gerald V. Barrett
1993 Award withheld
1994 Patricia J. Dyer
1995 Allen I. Kraut
1996 Erich Prien
1997 John Hinrichs
1998 Gary P. Latham
1999 Lowell Hellervik

Distinguished Scientific Contributions Award

1983 William A. Owens
1984 Patricia C. Smith
1985 Marvin D. Dunnette
1986 Ernest J. McCormick
1987 Robert M. Guion
1988 Raymond A. Katzell
1989 Lyman W. Porter
1990 Edward J. Lawler III
1991 John P. Campbell
1992 J. Richard Hackman
1993 Edwin A. Locke
1994 Bernard M. Bass
1995 Frank Schmidt & John Hunter
1996 Fred Fiedler
1997 Charles Hulin
1998 Terence Mitchell & Victor H. Vroom
1999 Neal Schmitt

Distinguished Service Contributions Award

1989 Richard J. Campbell & Mildred E. Katzell
1990 Paul W. Thayer
1991 Mary L. Tenopyr
1992 Irwin L. Goldstein
1993 Robert M. Guion
1994 Ann Howard
1995 Milton D. Hakel
1996 Sheldon Zedeck
1997 Ronald Johnson
1998 Neal Schmitt
1999 Richard Klimoski & William Macey

Ernest J. McCormick Award for Distinguished Early Career Contributions

1992 John R. Hollenbeck
1993 Raymond A. Noe
1994 Cheri Ostroff
1995 Timothy Judge
1996 Joseph Martocchio
1997 Stephen Gilliland
1998 Deniz S. Ones & Chockalingam Viswesvaran
1999 Richard DeShon

William A. Owens Scholarly Achievement Award

1998 Avraham N. Kluger & Angelo S. DeNisi
1999 David Chan & Neal Schmitt
1999 Peter Dorfman, Jon Howell, Shozo Hibino, Jin Lee, Uday Tate, & Arnoldo Bautista

M. Scott Myers Award for Applied Research in the Workplace

1998 Frank L. Landy, James L. Farr, Edwin Fleishman, & Robert J. Vance
1999 Chris Hornick, Kathryn Fox, Ted Axton, Beverly Wyatt, & Therese Revitte

Edwin E. Ghiselli Award for Research Design

1984 Max Bazerman & Henry Farber
1985 Gary Johns
1986 Craig Russell & Mary Van Sell
1987 Sandra L. Kirmeyer
1988 Award withheld
1989 Kathy Hanisch & Charles Hulin
1990 Award withheld
1991 Award withheld
1992 Julie Olson & Peter Carnevale
1993 Elizabeth Weldon & Karen Jehn
1994 Linda Simon & Thomas Lokar
1995 Award withheld
1996 Award withheld
1997 Kathy Hanisch, Charles Hulin, & Steven Seitz
1998 David Chan
1999 Award withheld

S. Rains Wallace Dissertation Research Award

1970 Robert Pritchard
1971 Michael Wood
1972 William H. Mobley
1973 Phillip W. Yetton
1974 Thomas Cochran
1975 John Langdale
1976 Denis Umstot
1977 William A. Schiemann
1978 Joanne Martin & Marilyn Morgan
1979 Stephen A. Stumpf
1980 Marino S. Basadur
1981 Award withheld
1982 Kenneth Pearlman
1983 Michael Campion
1984 Jill Graham
1985 Loriann Roberson
1986 Award withheld
1987 Collette Frayne
1988 Sandra J. Wayne
1989 Leigh L. Thompson
1990 Award withheld
1991 Rodney A. McCloy
1992 Elizabeth W. Morrison
1993 Deborah F. Crown
1994 Deniz S. Ones
1995 Chockalingam Viswesvaran
1996 Steffanie Wilk & Daniel Cable
1997 Tammy Allen
1998 David W. Dorsey & Paul E. Tesluck
1999 Taly Dvir

John C. Flanagan Award for Best Student Poster at SIOP

1993 Susan I. Bachman, Amy B. Gross, Steffanie L. Wilk
1994 Lisa Finkelstein
1995 Joann Speer-Sorra
1996 Frederick L. Oswald & Jeff W. Johnson
1997 Syed Saad & Paul Sackett
1998 Frederick P. Morgeson & Michael A. Campion
1999 Chris Kubisiak, Mary Ann Hanson, and Daren Buck

Robert J. Wherry Award for the Best Paper at the I-O/OB Conference

1980-82 Missing
1983 Maureen Ambrose
1984-87 Missing
1988 Christopher Reilly
1989 Andrea Eddy
1990 Amy Shwartz, Wayne Hall, J. Martineau & R. Sinclair
1991 Paul Van Katwyk
1992 Sarah Moore-Hirschl
1993 Daniel Skarlicki
1994 Talya Bauer & Lynda Aiman-Smith
1995 Mary Ann Hannigan
1996 Adam Stetzer & David Hofmann
1997 Scott Behson & Edward P. Zuber, III
1998 Dana Milanovich & Elizabeth Muniz

SIOP Members Who Have Received APA Awards

Award for Distinguished Contributions to Education in Psychology

1973 James B. Maas

Award for Distinguished Professional Contributions

1976 John C. Flanagan
1980 Douglas W. Bray
1989 Florence Kaslow
1991 Joseph D. Matarazzo
1992 Harry Levinson

Award for Distinguished Scientific Contributions to Psychology

1957 Carl I. Hovland
1972 Edwin E. Ghiselli

Award for Distinguished Scientific Contribution for the Applications of Psychology

1980 Edwin A. Fleishman
1983 Donald E. Super
1987 Robert Glaser
1994 John E. Hunter & Frank Schmidt

Award for Distinguished Early Career Contributions to Psychology

1989 Ruth Kanfer
1994 Cheri Ostroff

SIOP Members Who Have Received APF Awards

Gold Medal Award for Life Achievement in the Application of Psychology

1986 Kenneth E. Clark
1988 Morris S. Viteles
1991 Douglas W. Bray
1993 John C. Flanagan
1994 Charles H. Lawshe

SIOP Members Who Have Received APS Awards

James McKeen Cattell Fellow Award

1993 Edwin A. Fleishman
Robert Glaser
Donald E. Super

APA Funds University Sites to Develop Occupational Health Psychology Curricula

Heather Roberts Fox
APA Science Directorate

On May 10, 1999, the APA Science Directorate gave awards averaging $21,000 to Clemson University, the University of Houston, and Tulane University for their proposals to develop and implement core curricula for graduate students in OHP. The funds are provided by a 5-year cooperative agreement between APA and the National Institute for Occupational Safety and Health (NIOSH).

Occupational health psychology is an emerging specialty within psychology. In the broadest terms, OHP refers to the application of psychology to protecting and promoting the safety, health, and well-being of workers, and to improving the quality of worklife. The current cooperative agreement builds on earlier efforts by APA and NIOSH to promote research, education, and training in the field of OHP. APA and NIOSH recently hosted a conference in Baltimore, Maryland—titled "Work, Stress, and Health '99: Organization of Work in a Global Economy." One of the keynote speakers, APA chief executive officer Raymond D. Fowler, recalled that the two organizations became close after a NIOSH report in 1998 surprisingly included psychological disorders as one of the 10 leading occupational diseases and injuries.

Michael J. Burke, with co-investigator **Sue Ann Sarpy**, will direct the OHP program at Tulane University. The grant will finance the development and implementation of two interdisciplinary courses, including a survey course on the principles of occupational health psychology and a course on the principles and techniques of health and safety training. These courses will enhance the course offerings in the psychology department, as well as programs in Environmental Health Sciences, Industrial Hygiene, Occupational Health and Safety Management, and Health Systems Management. The development of the two courses will provide a basis for eventual goals of developing an interdisciplinary Master of Science degree program in OHP and advanced seminar courses and an interdisciplinary Ph.D. degree program in OHP, respectively.

Lois Tetrick will lead the initiative at the University of Houston to establish a specialty area of graduate study in occupational health psychology in the psychology department. Professor Tetrick will develop a survey course in OHP for graduate students and individuals holding a doctorate in psychology who want additional training in OHP. The University of Houston will also coordinate a series of lectures and workshops for faculty and graduate students to provide the basis for the development of an OHP methodology course. Faculty in the Industrial Engineering Department and the Health Law and Policy Institute will collaborate with the Psychology Department to support the training program.

The Psychology Department at Clemson University collaborated with the College of Business and Public Affairs and the College of Health, Education and Human Development on their proposal to develop graduate training in occupational health psychology. James McCubbin will head the effort to develop a graduate survey course in OHP and a research methods course in OHP. The psychology department also intends to organize a concentration of courses to provide an emphasis on OHP for graduate students in I-O, applied psychology, and other related programs outside of the department. The department plans to eventually submit a request to the South Carolina Commission on Higher Education for a separate Ph.D. in OHP.

Faculty will develop their programs in 1999 and 2000 in preparation for course offerings in 2000 and 2001. Interested students should contact the primary faculty of the universities. APA will issue a call for proposals for the next funding period in November 1999. All industrial and organizational psychology program chairs will receive application materials at that time.

Update on Test Anxiety Case

Heather Roberts Fox
APA Science Directorate

The U.S. Supreme Court has rejected the case of a student who sued a university after receiving mediocre grades in two courses (see the April 1999 issue of *TIP* for story). Mr. McGuinness charged that the anxiety he experienced during chemistry and mathematics tests was a disability protected by the law. He asked the Justices to overturn a November ruling by a panel of the U.S. Court of Appeals for the 10th Circuit, which had found that his anxiety did not qualify for protection under the ADA or the Rehabilitation Act of 1973. The decision by the U.S. Supreme Court in April to let this ruling stand supports the distinctions that can be made among disabilities that are protected by federal law.

Future SIOP Annual Conferences

2000	April 14-16	New Orleans	Hyatt Regency
2001	April 27-29	San Diego	Sheraton
2002	April 12-14	Toronto	Sheraton
2003	April 11-13	Orlando	Hilton
2004	April 2-4	Chicago	Sheraton

IOTAS

Allan H. Church
W. Warner Burke Associates, Inc.

Here below are the latest and greatest set of awards, updates, job changes, and other interesting TipBits for all our SIOP members on the move. As always, send your IOTAS to me at Allanhc96@aol.com and I'll be sure to include them in a future issue.

Awards

Chuck Pierce, Assistant Professor of Social and I-O Psychology at Montana State University, wrote in to let us know that **Herman Aguinis** has recently received the 1999 University of Colorado at Denver Chancellor's Lectureship Award. This university-wide annual award recognizes the best scholars on campus. Congratulations Herman!

Tracy Anderson from Personnel Decisions International wanted us to acknowledge **Lowell Hellervik,** Ph.D., for receiving the SIOP Distinguished Professional Contributions Award at the Annual Conference this April in Atlanta. See the News & Report item on the Award winners in this issue for more information on this and all the other SIOP award recipients.

People on the Move

After completing her Ph.D., **Michelle Donovan** recently joined **Karen May** and **Cristina Banks** at Terranova Consulting Group, an HR consulting firm located in the San Francisco Bay Area. Michelle's new number is (925) 253-0458 (michelle@terranovaconsulting.com).

Michael West, formerly at the Institute of Work Psychology, University of Sheffield, has taken up the post of Convenor, Organizational Studies, Aston Business School, University of Aston, Birmingham, B4 7ET, United Kingdom. Tel +44 121 359 3611 ext. 5049; Fax +44 121 359 3611; e-mail: m.a.west@aston.ac.uk.

Lori Foster, past co-columnist of *TIP-Topics* and future co-columnist of the new *Early Careers* column with **Dawn Riddle,** wanted us to know that she is officially East Carolina University bound. She will be joining ECU's Psychology Department as an Assistant Professor in early August.

Jo-Ida C. Hansen, Ph.D., SIOP Fellow and a faculty member in the Department of Psychology at the University of Minnesota, has been appointed incoming editor of the *Journal of Counseling Psychology.* Hansen has ap-

pointed 50 psychologists from a range of specialties and work settings to serve on the *JCP* Editorial Board. In addition, over 75 individuals have agreed to serve as Ad Hoc Reviewers. Other individuals interested in serving as Ad Hoc Reviewers are encourage to contact Dr. Hansen at jchjcp@tc.umn.edu or call the editorial office at (612) 625–1817. Manuscripts may be submitted for publication consideration to Dr. Hansen, c/o *The Journal of Counseling Psychology*, 75 East River Road, Department of Psychology, University of Minnesota, Minneapolis, MN 55455.

Books & Resources

Doug Kaufman, a graduate student in Social Psychology at Virginia Commonwealth University, wrote in to let us know about an educational resource website for undergraduate psychology students that he has created. He designed the site to help students enjoy psychology and get the most out of their classes. In his words: "The site provides help with classes, an online glossary of terms written in regular English, interactive quizzes, links to lots of resource areas on the Web complete with summaries and reviews of each, areas to write in questions, message boards for students to voice opinions and discuss topics about psychology, contests, and lots more." Doug indicated that he was looking for ways to inform teachers and students about the availability of the site and some of his faculty suggested *TIP* as a possible outlet. The site is called "AlleyDog.com: the psychology student's best friend," and can be found at: www.alleydog.com. Doug can be reached directly at docdoug@qtechs.com. Check it out.

One of our SIOP members across the Atlantic, Professor **Peter Warr** of the Institute of Work Psychology at the University of Sheffield, emailed to let us know that he has just completed a book entitled *Work, Well-Being and Effectiveness*. The book represents a history of the Social and Applied Psychology Unit in the University of Sheffield (1968–1994). The Unit has been host to many SIOP members over the years, and Peter thought that some *TIP* readers might be interested in obtaining a copy free of charge. For more information, contact Peter directly at p.warr@sheffield.ac.uk or via the old fashioned way: Professor Peter Warr, Institute of Work Psychology, University of Sheffield, Sheffield S10 2TN, United Kingdom, Tel: (0)114 222 3231, Fax: (0)114 272 7206.

CONFERENCES AND MEETINGS

This list was prepared by David Pollack. If you would like to submit additional entries, please write David Pollack at the U.S. Immigration and Naturalization Service, 800 K Street, NW, Room 5000, Washington, DC 20536, (or call (202) 305–0081, or fax entries to (202) 305–3664).

1999

July 12–17: 19th O.D. World Congress. Harare, Zimbabwe, Africa. Contact: Organization Development Institute, (440) 729–7419.

August 6–8: Annual Conference of the Association of Management/International Association of Management. San Diego, CA. Contact: AoM/IAoM, (804) 320–5771.

August 8–11: Annual Meeting, Academy of Management. Chicago, IL. Contact: Academy of Management, (914) 923–2607.

August 8–12: Annual Convention of the American Statistical Association. Baltimore, MD. Contact: ASA, (703) 684–1221.

August 20–24: Annual Convention of the American Psychological Association. Boston, MA. Contact: APA, (202) 336–6020.

September 13–15: 10th Annual International Conference on Work Teams. Dallas, TX. Contact: Center for the Study of Work Teams, (940) 565–3096.

September 28–October 2: Annual Conference of the Human Factors and Ergonomics Society. Houston, TX. Contact: The Human Factors and Ergonomics Society, (310) 394–1811.

2000

March 3–5: 21st Annual Industrial Organizational/Organizational Behavior Graduate Student Conference. Chattanooga, TN. Contact: James LeBreton, jlebreto@utk.edu.

March 8–12: Annual Conference of the Academy of Human Resource Development. Raleigh-Durham, NC. Contact: AHRD, (504) 334–1874.

March 28–April 2: Annual Conference of the Southeastern Psychological Association. New Orleans, LA. Contact: SEPzA, (850) 474–2070

March 29–April 6: Annual Conference of the American Society for Public Administration. San Diego, CA. Contact: ASPA, (202) 393–7878

April 14–16: 15th Annual Conference of the Society for Industrial and Organizational Psychology. New Orleans, LA. Contact: SIOP, (419) 353–0032.

April 24–28: Annual Convention, American Educational Research Association. New Orleans, LA. Contact: AERA, (202) 223–9485.

April 24–28: Annual Convention, National Council on Measurement in Education. New Orleans, LA. Contact: NCME, (202) 223–9318.

May 1–4: 28th International Congress on the Assessment Center Method. San Francisco, CA. Contact: DDI, (412) 257–3952.

May 20–25: Annual Conference of the American Society for Training and Development. Dallas, TX. Contact: ASTD, (703) 683–8100.

June 2–6: Annual Conference of the International Personnel Management Association Assessment Council. Washington, DC. Contact: IPMA, (703) 549–7100.

June 8–11: Annual Convention of the American Psychological Society, Miami, FL. Contact: APS, (202) 783–2077.

June 25–28: Annual Conference of the Society for Human Resource Management. Las Vegas, NV. Contact: SHRM, (703) 548–3440.

CALLS AND ANNOUNCEMENTS

Call for Papers

Journal of Organizational Behavior: Special Issue on Shared Cognition in Teams and Organizations

Recently, attention has been focused on determining the factors that contribute to effective team performance in organizations. In particular, researchers have been interested in defining how shared cognition among team members affects team performance (Cannon-Bowers, Salas, & Converse, 1993; Klimoski & Mohammed, 1994). The notion of shared cognition—which has been variously described as team mental models, shared mental models, shared knowledge, or team cognition—encompasses the notion that effective team members hold knowledge that is either compatible, complementary, and/or overlapping with teammates. Furthermore, this shared knowledge enables team members to have more accurate expectations and a compatible approach for task performance. Hence, shared knowledge is expected to improve team, and in turn, organizational effectiveness.

Despite several years of research into the shared cognition construct, there are still many questions to be answered regarding exactly what shared cognition is, what knowledge needs to be shared among members, and how various types of shared knowledge affect organizational performance. In particular, it is yet to be determined how best to measure shared cognition, and determine empirically its impact on performance. The purpose of this Special Issue is to publish articles that address these issues. The issue will be edited by **Eduardo Salas** and Janis A. Cannon-Bowers.

We seek submissions that will further our understanding of how shared cognition may improve team performance in organizations. We will consider theoretical pieces that integrate and extend current thinking as well as manuscripts that tackle measurement issues and that provide empirical support for the efficacy of the construct. Both field and laboratory studies are welcome.

Possible topics include, but are not limited to the following: What are shared mental models? What is shared cognition? What are the theoretical underpinnings behind shared cognition? Why is shared cognition important for organizational behavior? What are the measurement challenges? How are shared mental models best assessed? What are the level of analysis issues? What human resource strategies can be used to foster shared cognition in teams or organizations? Are shared mental models predictive of team or organizational performance?

Authors should follow *JOB* instructions in preparing manuscripts. Please submit five copies of manuscripts to: **Eduardo Salas, 4010 Gallagher Loop, Casselberry, FL 32707, e-mail: SalasEA@navair.navy.mil. Contributions should be received by December 1, 1999.**

Call for Nominations:
ASTD Dissertation Award

The American Society for Training & Development (ASTD) Dissertation Award is presented annually to the person who has submitted the best dissertation completed during the previous academic year on some issue of relevance to the practice of workplace learning and performance. Illustrative areas of concentration include: training and development, organizational development/learning, performance analysis, work design, career development, human resource planning. The dissertation must report a study for which a degree was granted in the previous year between July 1, 1998, and June 30, 1999. The award winner will receive a commemorative plaque presented at the awards ceremony during the 2000 ASTD International Conference and Exposition, May 20-25 in Dallas, Texas; $500 cash prize; designated place on the 2000 ASTD International Conference and Exposition program to present the research (with conference registration fee paid); and an announcement of the award and a summary of the findings in the *Training & Development* magazine.

Applications will be evaluated by the ASTD Research Committee and other reviewers. Finalists will be asked to submit a manuscript that is based on the dissertation and that follows the general guidelines of the *Human Resource Development Quarterly*. All research methodologies will be considered on an equal basis including, for example, field, laboratory, quantitative, and qualitative investigations. All materials submitted must be in English. Initial applications are due **September 15, 1999** and must include *five copies* of the following items, without exception:

1. Letter of application from candidate.
2. Letter of recommendation and sponsorship from committee chair, *on letterhead*, with the dissertation completion date.
3. Abstract of the dissertation, 5-15 pages in length, double-spaced (1-inch margins; 12-point font), that includes: (a) summary of the problem addressed by the study; (b) critique of relevant literature; (c) synopsis of the findings; (d) implications for practice and research.
4. Responses by the candidate to the following questions. Total length of response should not exceed three pages, double-spaced: (a) Why is the problem addressed in the dissertation of importance? (b) Why was the overall design chosen a "good" (i.e., methodologically rigorous and appropriate) design? (c) What measurement and analysis problems did you encounter, and how did you resolve them?

Send *five copies* of the above (and all additional questions) to the Award Chair: **Jennifer D. Dewey, Ph.D., Arthur Andersen, 1405 North Fifth Avenue, St. Charles, IL 60174, Phone: (630) 444–3828, Fax: (630) 377–3794, jennifer.d.dewey@us.arthurandersen.com**

Call for Papers:
Consulting Psychology Journal

The Division of Consulting Psychology (13) is seeking manuscripts for its quarterly publication *Consulting Psychology Journal: Practice and Research.* An official APA division journal, CPJ is masked-reviewed and publishes articles in the following areas:

1. Theoretical and conceptual articles with implications for consulting.
2. Original research regarding consultation.
3. In-depth reviews of research and literature on consulting practice.
4. Case-studies that demonstrate applications or critical issues.
5. Articles on consultation practice development.
6. Articles that address unique issues of consulting psychologists.

Potential authors are encouraged to contact the editor for more information. Submissions (in triplicate) for review should be sent directly to **Richard Diedrich Ph.D., Editor, The Hay Group, 116 Huntington Avenue, Boston, Massachusetts, 02116–5712, tel. (617) 425–4540, fax: (617) 425–0073.**

Call for Papers

Academy of Human Resource Development
Research Conference 2000

The Academy of Human Resource Development (AHRD), an international organization having the mission of encouraging the systematic study of human resource development theories, processes, and practices, encourages you to submit proposals for the 2000 Annual Conference. All scholars interested in HRD and related areas (e.g., OD, I-O, HRM, etc.) are invited to submit proposals for consideration. The conference will be held at the Sheraton Imperial Hotel, Research Triangle Park, North Carolina, March 7-12, 2000 and is being hosted by North Carolina State University.

The conference is attended by researchers and graduate students from the areas of HRD, business, psychology, education, economics, sociology, technology, and communication. In addition, HRD researchers and reflective practitioners from business, industry, and government participate fully in the conference.

Proposals may be submitted in three categories: Research and Theory Symposium, Innovative Session, and Poster. All proposals will be blind reviewed, and should

be based on new, unpublished research. Papers accepted for the conference program will be published in the conference proceedings and may be published elsewhere following the conference. Authors may submit full manuscripts or proposals.

For more information about the conference or the Academy of Human Resource Development in general, please visit the AHRD website at www.ahrd.org or contact the AHRD Office: **Academy of Human Resource Development, P. O. Box 25113, Baton Rouge, LA Baton Rouge, LA 70894–5113, tel: (225) 334–1874, fax: (225) 334–1875, e-mail: office@ahrd.org**

Call for Posters
Sponsored by *The Ohio Psychologist*

The Ohio Psychologist invites students doing research on psychology-based topics to present poster summaries at OPA's 1999 Annual Convention at the Greater Columbus Convention Center, Columbus, Ohio, October 6, 1999. The editors and Publications Council of *The Ohio Psychologist* and the Ohio Psychological Association are proud to sponsor this year's event.

In coordination of the 50th anniversary of OPA, this year's poster session will offer special recognition to student(s) who present the most exemplary poster at the Convention. The co-editors of *The Ohio Psychologist* and members of the OPA Publication Council will judge posters. Judging will occur throughout Friday. The recipient of the "1999 Poster of the Year" award will be announced during the afternoon break at the Annual Convention and the recipient(s) will be entitled to the following:

- Guest Editorship of an issue of *The Ohio Psychologist* that will highlight recipient(s) research and focus articles based on the poster presentation summary.
- One-year free membership to the Ohio Psychological Association.
- Free attendance to the 2000 OPA Institute in Dayton, Ohio, on April 22–23, 1999.

The posters will be displayed from 9:00 am to 6:00 pm on Friday, October 8, 1999. It is required that you accompany your poster at breaks throughout the day on Friday.

Please include the following information so that we may review your proposal:

1) Name, address, and phone number
2) Title of research
3) University affiliation
4) Faculty advisor
5) Abstract (40 words of less)
6) $10.00 presentation fee (make checks payable to Ohio Psychological Association)

Applicants will be informed of their entry acceptance 3 weeks prior to the Convention. Submission of proposal signifies that you will be present on Friday, October 8, 1999. Please return two copies of your proposal by September 1,1999, to:

Poster Committee—*The Ohio Psychologist*, Ohio Psychological Association, 400 East Town Street, Suite G20, Columbus, OH 43215–1599.

Summer APA Convention
Mini-Convention on Consumers and Psychologists in Dialogue

Psychologists are not currently major providers in the care and treatment of patients suffering from long-term mental illness. However, psychologists could play a very significant role in the care of this population. The outcome research literature strongly indicates that while psychoactive medications can suppress the symptoms of serious mental illness, psychological rehabilitation actually holds out hope for recovery. In this endeavor, psychologists would be well advised to work to develop partnerships with recovered consumers. There is a growing cadre of people who have recovered from serious mental illness who can serve as invaluable allies in the recovery process because of their ability to relate to the consumer's experience. Such consumers, also known as "survivors of psychiatric treatment" and "ex-mental patients" are interested in collaborating with psychologists, and deeply believe from their own experiences that psychotherapy and psychosocial rehabilitation can be very beneficial. But to develop such a coalition, consumers state clearly that psychologists must understand the perspectives of consumers on such matters as participating in their own recovery, the integration of self-help with professional services, living with a diagnosis of serious mental illness, forced treatment and its alternatives, and on the abuses that many have experienced in the mental health system.

There will be a mini-convention this summer at the APA convention in Boston on this very topic. Titled "Consumers and Psychologists in Dialogue", its purpose is to open a dialogue on the topic of recovery from long term mental illness between the larger psychological community and the community of recovering consumers of mental health services, and to begin the process of developing partnerships and coalitions to our mutual benefit.

The idea for the mini-convention was generated during a weekend in August 1998 sponsored by the Center for Mental Health Services of SAMSHA, in which ten representatives each from the psychologist and the consumer communities were invited to Washington to work on developing a dialogue. The participants found this meeting to be of such significance that we decided that it would be a good idea to present some of the content to the larger community of psychologists. For, in this era of cost containment in mental health services, the time may be ripe for the formation of a broad-based coalition between consumers of mental health services and psychologists.

The mini-convention will consists of 11 sessions including a "Town Hall Meeting", in which psychologists specializing in the psychology of long-term mental illness conduct a dialogue with consumers of mental health services, and in which prominent leaders in psychology serve as discussants. The mini-convention is sponsored by the APA Board of Directors and cosponsored by the Committee for the Advancement of Professional Practice, American Psychological Association for Graduate Students, Board of Professional Affairs, Board of Educational Affairs, Board for the Advancement of Psychology in the Public Interest, and the divisions of Public Service, Women, Independent Practice, Family Psychology and State Psychological Association Affairs. The mini-convention is partially supported by the Center for Mental Health Services, Substance Abuse and Mental Health Administration. The co-chairs are: Ronald Levant, Ed.D., Catherine Acuff, Ph.D., Robert Coursey, Ph.D., Ronald Bassman, Ph.D.

You are all cordially invited to attend!! For more information contact **Ronald F. Levant, APA Recording Secretary at (202) 336–6074 or RLevant@aol.com.**

Pre-APA Convention
Media Workshop

APA Division 46, Media Psychology and S.A.I.L., Inc. Media Services, are sponsoring an APA pre-convention media workshop for practitioners, academics, and scientists on Thursday, August 19, 1999, from 1:00 p.m. to 5:00 p.m. at the Westin Copley Place in Boston, MA. The workshop is titled: *Television Training: In Front of the Camera with Skill and Confidence.*

For more information contact: **Dr. Susan Kastl, S.A.I.L., Inc. Media Services, MR Box 5108, 31 McAlister Dr., New Orleans, LA 70118–5555, Ph: (504) 865–1166, Fax: (504) 865–1667, e-mail: susankastl@msn.com**

POSITIONS AVAILABLE

I/O PSYCHOLOGY INTERNSHIP OPPORTUNITIES. GTE, a leader in telecommunications, is seeking candidates for internships in its Employee Capability and Competency Design Department. These positions will provide the opportunity to gain experience in a large corporation and to become an active participant in a Human Resources team. The intern will assist I/O Psychologists in planning and carrying out content and/or criterion-related test development and validation projects, writing technical reports, and other related projects.

Candidates must be advanced Ph.D. students in I/O psychology (3rd or 4th year). Training or experience in job analysis, development and validation of paper-and-pencil tests and structured interviews, competency modeling, and criterion development is required. Knowledge of current legal and professional guidelines for employee selection procedures is also required. A solid background in psychometrics is essential, and experience with SAS, SPSS, or a similar statistical package is highly desirable. Candidates must be able to cooperate in team efforts and have strong interpersonal, organizational, and communications skills, both oral and written.

These internships are full-time positions with a duration of 6 to 12 months. Internships will start at various times during the year. All positions are located in Irving, Texas. Interested applicants are invited to submit a resume, desired start date, a list of references, and graduate transcript to: **Nancy T. Tippins, Ph.D., GTE, 700 Hidden Ridge, HQW01J52, Irving, Texas 75038, E-mail: nancy.tippins@telops.gte.com, Fax: (972) 718–4521**

I/O PSYCHOLOGY INTERNSHIPS IN CONSULTING. DeCotiis Erhard Strategic Consulting Group, Inc. (DE) is a human resources consulting firm dedicated to building and supporting the success of our customers with respect to their employees, customers, and financial results. Members of DE believe that "The customers and employees of an enterprise constitute the human resources that jointly determine its financial success."

DE handles a wide variety of projects relating to organizational development, performance measurement, selection and assessment, and survey development. Our work focuses on the articulation and communication of corporate vision and the development of HR procedures and strategies that support this vision through the measurement of key results. Articulation and measurement

of all important aspects of customer and employee processes and results are at the core of our products and services.

We are searching for two exceptional individuals who would like to gain I/O Psychology experience in the consulting field. These are full-time internships lasting from 6–12 months each. All positions are located in Colorado Springs.

Candidates should be advanced master's degree or Ph.D. students in I/O Psychology. Candidates should have experience in one or more of the following areas: survey design and analysis, test development and evaluation with new ideas and unconventional thinking, and a background that is strong in quantitative methods. Previous assessment center experience also a plus! Excellent analytical, interpersonal, and oral and written communication skills are a must.

DeCotiis Erhard is a company where you can grow, have fun, and make money, but you must be willing to work hard and smart! Interested individuals are invited to submit a cover letter with salary requirements and resume to: **Jeri Forster, Staffing Coordinator, DeCotiis Erhard Strategic Consulting Group, Inc., 102 South Tejon, Suite 800, Colorado Springs, CO 80903, Fax: 719–448–0920.** No phone calls please.

SBC COMMUNICATIONS INC. SBC Communications Inc., an international leader in the telecommunications industry, is accepting applications for pre-doctoral internships in HR Research. SBC is made up of the merged companies of Southwestern Bell, and Pacific Bell, Nevada Bell and Southern New England Telephone, with a total of approximately 129,000 employees. The internship position is located in corporate headquarters in San Antonio, Texas.

Our internship program provides students with a strong I/O background the opportunity to apply their training in a fast-paced corporate environment. Interns work in a team setting on a full range of HR Research projects, including selection, performance management, employee surveys, and organizational development initiatives. We strive to develop interns to the point of taking end-to-end responsibility for a project.

Qualified candidates should have completed their Master's degree (or equivalent) and be currently enrolled in a Ph.D. program in I/O Psychology, Psychometrics, Organizational Behavior, or related discipline. Preference will be given to candidates who have prior work experience in areas such as job analysis, selection procedure validation and/or survey research. A strong background in research methods and statistics is desired. Experience using SPSS is a plus.

If you meet the above qualifications, have strong written and oral communication skills, and desire to work in a Fortune 50 company, please submit your resume and a list of at least 3 references for internships beginning in January or beginning in July. Internships are designed to last either 6 months or 1 year.

activities and access to many research organizations and government agencies. For further information contact Richard Klimoski or visit our WebPage http://mason.gmu.edu/~ion/iopsa/home.htm.

Candidates should send a copy of their vita and supply three letters of reference to **Dr. Richard Klimoski, Mail Stop 3F5, George Mason University, 4600 University Drive, Fairfax, VA 22030-4444.** Review of applications begins on October 15, 1999 and will continue until the position is filled. George Mason University is an Equal Opportunity/Affirmative Action employer Organization.

Committee Volunteer Form

Society for Industrial and Organizational Psychology, Inc.

Deadlines: The deadline for volunteering to serve on the Continuing Education and Workshop Committee is December 1st. For all other committees, nominations are accepted at any time. Please submit a completed form to the address given at the bottom of this page.

Mailing Address / **Telecommunications**

Name: ______________________ (Last) (First) (MI) Office: (____)__________

Address: ______________________ Fax: (____)__________

______________________ E-mail: __________

Job Title: __________ **Organization:** __________

Highest Degree: ______ **Year Granted:** ______ **Institution:** __________

Society Status: Associate ☐ Member ☐ Fellow ☐

Committee Preference: If you have preferences concerning placement on committees, please indicate them by writing the number 1, 2, and 3, respectively, by the names of your first, second, and third most preferred committee assignments. Note, however, that you need not provide these rankings if you are indifferent about committee placement.

____ Awards	____ Education & Training	____ Professional Practice	____ Scientific Affairs
____ Committee on Committees	____ Fellowship (Fellows only)	____ Program (APA Meeting)	____ State Affairs
____ Continuing Education & Workshops	____ Membership	____ Program (SIOP Conference)	____ TIP Newsletter

____ **Please check here if you would be willing to serve as a mentor for a new SIOP member.**

Prior Society Service: If you have previously served on SIOP committees, please list their names and the years you served.

____

____

____

Prior APA/APS Service: If you have previously served on APA or APS boards or committees, please list their names and the years you served.

____

____

References: Please provide the names and addresses of two Members or Fellows of the Society who the Committee on Committees may contact to obtain additional information about you.

Name	Address	City	State	Zip
Name	Address	City	State	Zip

Your Signature: ______________________ **Date:** __________

Please mail or fax the completed form to: SIOP Administrative Office, PO Box 87, Bowling Green, OH, 43402-0087. Fax (419) 352-2645. If you need further assistance call (419) 353-0032.

SIOP

Society for Industrial and Organizational Psychology, Inc.

Division 14 of the American Psychological Association
Organizational Affiliate of The American Psychological Society

How Do I Join SIOP?

Thank you for your interest in joining–or rejoining–the Society for Industrial and Organizational Psychology, Inc. (SIOP). The following information is provided to guide you through the application process.

Article I, Section 2 of the Society's Bylaws describes the Society's purpose as "to promote human welfare through the various applications of psychology to all types of organizations providing goods and services." Examples of such applications include selection and placement of employees, organizational development, personnel research, design and optimization of work environments, career development, consumer research and product evaluation, and other areas affecting individual performance in or interaction with organizations.

Who Is Eligible?

Membership in the Society for Industrial and Organizational Psychology, Inc. (SIOP) is open to Fellows, Members, and Associates of the American Psychological Association (APA) and Fellows and Members of the American Psychological Society (APS). Applications for Society Member, Associate or as Foreign or Student Affiliates of the Society are handled through the Society Membership Committee. Recommendations for status as Fellows are made through the Fellowship Committee.

What Are the Criteria for Membership?

Applicants for Society Membership must (1) be paid Members of either APA, APS, or the I-O Section of the Canadian Psychological Association at the time of application, (2) have a doctoral degree based in part upon a psychological dissertation conferred by a graduate school of recognized standing, (3) be engaged in study or professional work that is primarily psychological in nature, and (4) be engaged in professional activities (research, teaching, practice) related to the purpose of the Society, as stated above.

Applicants for Society Members not receiving a doctoral degree in I-O Psychology must support their application with any one of the following: (1) two articles published in I-O related journals, (2) two letters of recommendation written by current Society Members, (3) name of I-O related courses taught, or (4) copies of unpublished research or evaluation reports in the I-O areas.

Applicants for Associate Membership must: (1) be paid Associate Members of APA or paid Members of APS at the time of application, (2) have completed two years of graduate study in psychology at a recognized school, (3) have a Master's degree in psychology (or related area) from a recognized graduate school; (4) have a minimum of one year's full-time professional work in psychology; and (5) be engaged in professional or graduate work related to the purpose of the Society, as stated above.

Applicants for Foreign Affiliate Membership must: (1) reside in a country other than the United States, and (2) meet all the criteria for Society Member or Society Associate status with the exception that membership in APA or APS is not required.

Applicants for Student Affiliate Membership must be currently enrolled, and must have their faculty advisor sign their application form to verify that they are currently a student in good standing. They do not necessarily have to be majoring in psychology. Student Affiliate Members are not required to be Student Members of APA or APS, but must be presently engaged in formal study related to the purpose of the Society, as stated above.

How Do I Proceed?

To apply for membership in SIOP, you should complete a Member/Associate Member/Foreign Affiliate application or a SIOP Student Affiliate application and return it to the SIOP Administrative Office. Student applicants should include a $10 membership fee with their application and the signature of their faculty advisor, all other applicants should not send any money until they have been accepted into membership.

Send applications (Student Affiliates should include payment and an advisor's signature) to:

SIOP Administrative Office • PO Box 87 • Bowling Green OH 43402-0087
(419) 353-0032 • (FAX) 352-2645

Application for Membership

Society for Industrial and Organizational Psychology, Inc.
Division 14 of the American Psychological Association
Organizational Affiliate of the American Psychological Society

Mailing Address and Contact Information

Name ____________________
Address ____________________
____
City __________ State ____ Zip ____ - ____
Office Phone ____________________
Fax ____________________
Home Phone ____________________
E-mail ____________________

Indicate your affiliation:

Current APA Status
☐ Fellow ☐ Member
☐ Associate ☐ Foreign Affiliate

Current APS Status
☐ Fellow ☐ Member

Current Canadian Psychological Association Status in I/O Section
☐ Fellow ☐ Member

Check status in SIOP for which you are applying: ☐ Member ☐ Associate ☐ Foreign Affiliate
(Please refer to SIOP membership criteria)

Educational Background (List graduate education first)

Institution	Degree	Date	Major Area of Specialization

Professional Experience (List present position first)

On a separate sheet of paper, provide the following information for your last three (3) jobs

- Employer
- Title
- Employment dates
- Brief description of the duties for each job

This information is critical for the committee's deliberation of your application. ***Applications without this information will not be considered.***

If your degree is not in I-O Psychology, you must also submit any one of the following:

(1) two articles published in I-O related journals, or
(2) two letters of recommendation written by current Society Members, or
(3) name of I-O related courses taught, or
(4) copies of unpublished research or evaluation reports in the I-O areas

In making this application, I subscribe to and will support the purpose of the Society, "to promote human welfare through the various applications of psychology to all types of organizations..." I also subscribe to and will support the American Psychological Association's Ethical Principles of Psychologists as adopted by APA and endorsed by the Society. I affirm that the statements made in this application correctly represent my qualifications for election, and understand that if they do not my membership may be voided. I authorize investigation of all statements contained in this application.

Date __________ Signature ____________________

Return your application, along with supporting documents, to:
SIOP Administrative Office, P.O. Box 87, Bowling Green, OH 43402-0087
Phone: 419/353-0032 Fax: 419/352-2645

Student Affiliate Application

Society for Industrial and Organizational Psychology, Inc. (SIOP)

1. APPLICATION INFORMATION

- Applications must include the signature of a faculty advisor to verify your student status.
- Student Affiliate dues are $10.00. Payment must be in U.S. funds by check, money order, or credit card (Visa, MasterCard and American Express only).
- Dues payment covers a subscription to *The Industrial-Organizational Psychologist TIP* for $10. The *SIOP Membership Directory*, the *Conference Call for Proposals*, the *Conference Program*, other mailings, discounts on selected publications, and reduced rates for the Annual Conference and Workshops are also provided.
- The SIOP dues year runs from May to April. Annual renewals are sent to members and affiliates each April.

2. MAILING ADDRESS (Please print)

Name ____________________
Street address ____________________
City __________ State ______ Zip __________
Please include ZIP + 4

3. EMAIL ADDRESS & TELEPHONE (Please print)

Email __________ Phone: __________

4. EDUCATIONAL INFORMATION

Name of institution ____________________
Address of department: ____________________
Area of specialization/major: ____________________
Degree you are pursuing (e.g. Ph.D., M.S., etc.) ______ Year you expect to graduate ______

Advisor's name (*please print*) ____________________
Advisor's signature: ____________________ Date: ______
APPLICATION MUST BE SIGNED BY AN ADVISOR IN ORDER TO BE PROCESSED.

5. PAYMENT METHOD

Mark appropriate space: __ Check __ Money Order __ Visa/MasterCard/AmEx
Charge to card number ____________________ Expiration date: ______
Name on card: ____________________
Cardholder signature ____________________

MAIL APPLICATION WITH DUES PAYMENT TO
SIOP Administrative Office • PO Box 87 • Bowling Green OH 43402-0087

ADVERTISE IN TIP AND THE ANNUAL CONVENTION PROGRAM

The Industrial-Organizational Psychologist (TIP) is the official newsletter of the Society for Industrial and Organizational Psychology, Inc., Division 14 of the American Psychological Association, and an organizational affiliate of the American Psychological Society. **TIP** is distributed four times a year to more than 3,000 Society members; the **Society's Annual Convention Program** is distributed in the spring to the same group. Members receiving both publications include academicians and professional-practitioners in the field. In addition, **TIP** is distributed to foreign affiliates, graduate students, leaders of APA and APS, and individual and institutional subscribers. Current circulation is 5,500 copies per issue.

Advertising may be purchased in **TIP** and **the Annual Convention Program** in units as large as two pages and as small as one-half page. **"Position Available"** ads can also be obtained in TIP at a charge of $80.00 for less than 200 words, and $95.00 for less than 300 words. These ads may be placed on our Web page at no additional charge. Please submit position available ads by e-mail or disk. For information or placement of ads, contact: **SIOP Administrative Office, 745 Haskins Rd., Suite D, P.O. Box 87, Bowling Green, OH 43402–0087, Lhakel@SIOP.bgsu.edu, (419) 353–0032.**

Advertising Rates

Rates per Insertion

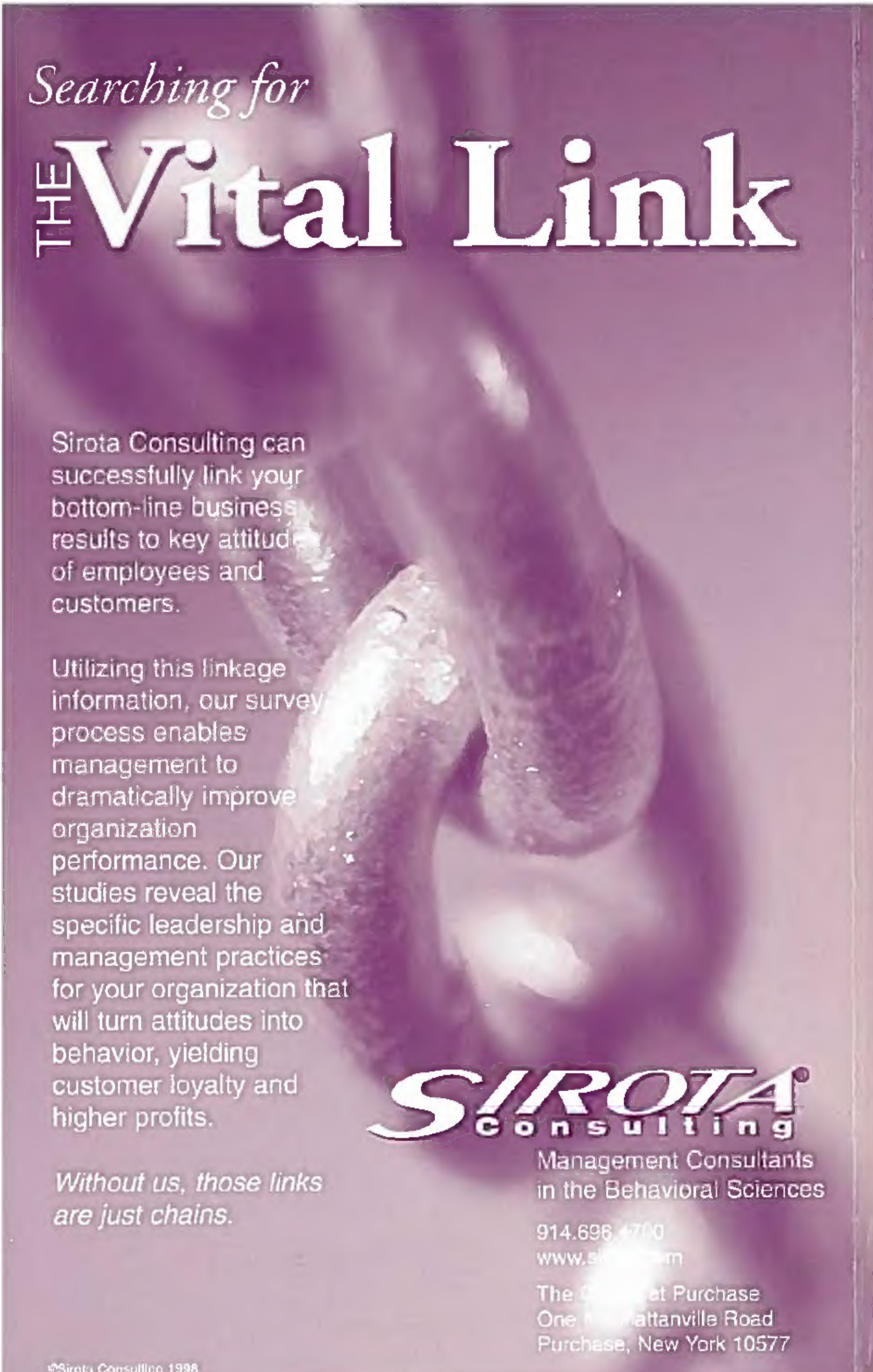
	Number of Insertions	
Size of Ad	*One Time*	*Four or More*
Two-page spread	$475	$345
One page	$285	$210
Half page	$220	$175
Back cover	$475	$345

Plate Size

Size of Ad	*Vertical*	*Horizontal*
One page	7–1/4"	4–1/4"
Half page	3–1/4"	4–1/4"

Publishing Information

TIP is published four times a year: July, October, January, April. Respective closing dates are May 15, August 15, November 15, and February 15. The Annual Convention Program is published in March, with a closing date of January 15. **TIP** is a 5–1/2" x 8–1/2" booklet, printed by offset on enamel stock. Type is 10 point Times New Roman.


Searching for
THE Vital Link
Sirota Consulting can successfully link your bottom-line business results to key attitudes of employees and customers.
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